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ABSTRACT

A study was conducted at a mid-western community college to determine motivational profile differences between high and low achievers. The study population of 71 full-time, degree-seeking students in the school of arts and sciences was divided into a high achieving group with grade point averages (GPA's) of 3.85 and above, and a low achieving group with GPA's of 1.0 or below; and was tested using Martin's Motivational Profile. Study results included the following: (1) positive motivational sources, such as pleasure with performance, happiness, and good prior performance, had no significant impact on academic performance; (2) low achieving males scored highest in overall positive motivational sources, while low achieving females scored lowest; (3) females in both high and low achieving groups had significantly higher negative motivation scores than males; (4) among both male and female low achievers, negative motivation was almost twice that of the high achievers; (5) overall energy levels were significantly higher in low achievers than in high achievers; (6) the group with the lowest depression level was the high achieving males and the group with the highest depression level was the low achieving males; (7) anxiety levels were significantly higher in low achievers; (8) women in both groups manifested a significantly greater level of fear than males; (9) negative conflict scores were significantly higher in low achievers; and (10) frustration levels were significantly higher in low achievers. The study report includes the motivational profile instrument as well as raw data and ANOVA tables for the motivation factors. (LAL)

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RELATIONSHIP OF MOTIVATIONAL DIFFERENCES OF MALE AND FEMALE
COMMUNITY COLLEGE STUDENTS TO ACADEMIC ACHIEVEMENT

A THESIS IN
Psychology

Presented to the Faculty of the University
of Missouri-Kansas City in partial fulfillment of
the requirements for the degree

MASTER OF ARTS

by
DONNA M. MARTIN

B.A., University of Missouri-Kansas City, 1984

Kansas City, Missouri
1985

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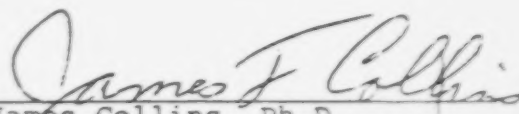
Donna M. Martin, Master of Arts
University of Missouri-Kansas City, 1985

ABSTRACT

Four hundred twenty full-time degree seeking students of the school of arts and sciences in a mid-western community college setting were tested to determine motivational profile differences between high and low achievers. Those students meeting the GPA criteria of 3.85 and above formed the high achieving group and those with GPA's of 1.0 and below formed the low achieving group. GPA's were verified by the students' cumulative records obtained by permission from the registrar. Seventy-one students conformed to these GPA standards and were selected as the research sample. Groups were further divided by sex resulting in a 2 x 2 design: High Achieving Males, High Achieving Females, Low Achieving Males, and Low Achieving Females. The testing instrument used to determine individual motivational profiles was Martin's Motivational Profile (MMP). Data from the motivational categories tested were analyzed via a two-way analysis of variance.

Resultant scores were used to test the hypothesis that certain motivational states are related to performance and that struggling students would show higher levels of depression and anxiety while successful students would show more stability. These hypotheses were supported in the area of overall negative motivation, total motivation (energy level), motivational net differences, chronic and acute negatives, depression, anxiety, fear, negative conflict, curiosity and frustration. Positive motivational sources did not show significant relationships to academic performance, with the exception of depression which is described as a positive motivational factor in the Quality of Motivation Theory. Although all negative factors were significantly related to performance, depression proved to be a serious impairment to performance also, and particularly for male subjects.

This abstract of 300 words is approved as to form and content.


James Collins, Ph.D.

The undersigned, appointed by the Dean of the School of Graduate Studies, have examined a thesis entitled "Relationship of Motivational Differences of Male and Female Community College Students to Academic Achievement," presented by Donna M. Martin, candidate for the Master of Arts, and hereby certify that in their opinion it is worthy of acceptance.

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CHAPTER I

INTRODUCTION AND REVIEW OF RELEVANT LITERATURE

Retention, academic performance, and drop-out rates are all areas of concern to administrators in higher education. In 1983, the National Commission on Excellence in Education presented a scathing report on our public school system charging educators with threatening national security by allowing a "rising tide of mediocrity" in education. The Commission's report, A Nation at Risk, triggered a wave of action and reaction among educators and administrators nationwide. Since that time educational reform has become a top priority concern and in the 1984 election year was a major platform issue in the political arena. Numerous hypotheses have been presented in an attempt to explain, and thereby remedy, the serious decline in academic achievement and the increasingly higher drop-out rate of high school and college students. Economists have speculated that the recession was responsible for the high drop-out rates. Religious leaders have suggested that the decline in academic performance is the result of an overall breakdown of the family and the loss of traditional values, along with a lack of

discipline and control. Union leaders protest that an increase in teachers' salaries and the development of a merit pay system are the necessary catalysts to improve academic performance. Although each group points to a different cause, all agree that the current quality of public education is lower than they wish it to be. College administrators, concerned because of the declining school-age population, also seek ways to retain the students they do enroll.

Edwards and Waters (1983) studied the "college fit" hypothesis which states that the higher the degree of congruence between students' attitudes and those of the college, the more likely students will persist at that institution. Independent variables in the Edwards and Waters study included: (a) first semester GPA, (b) satisfaction with the non-academic part of the college, (c) personal needs/college climate discrepancy index, (d) course involvement, (e) course satisfaction, and (f) academic ability. Factors "a" and "b" were found to predict undifferentiated attrition. Factor "c" proved to be marginally significant and factors "d," "e," and "f" did not add any significance to attrition prediction.

The number of possible variables involved and the complexity of the attrition/performance problem has stimulated a lot of research. Bianchi and Bean (1980) compared high achieving "persisters" (Group 1), high achieving

"withdrawals" (Group 2), low achieving "persisters" (Group 3), and low achieving "withdrawals" (Group 4). The results suggested that social maturity and SAT scores were the only reliable variables that separated the high from the low achievers. Sheridan and Smith (1984) expanded the hypothesis that social maturity assumes a primary role in academic performance. In their study, stress and resistance resources were correlated with GPA's of 541 high school students. Results showed that students with low grades lacked even the most rudimentary social supports and affiliations, suggesting that this lack of social competencies hinders the ability to control internal and external pressures that presumably lead to poor academic performance.

Internal versus external locus of control scores compiled with students' expectations about "self" and expectations of their instructors were found to correlate with academic performance (Feldman, Saletsky, Sullivan, & Theiss, 1983). Internal control was defined as the tendency to attribute outcome to one's own behavior. External control was defined as the tendency to attribute outcome to the behavior of others, chance, or fate. Results indicated persons who scored higher on internal orientations responded differentially to expectations about themselves and the teacher's competence and were more affected by expectations based on their own competence. Externally oriented students were

affected more by their expectations of others. Subjects were asked to complete questionnaires concerning their attitudes toward teachers in such areas as teacher performance, clarity of presentation, and teacher enthusiasm. Further, subjects were evaluated on the effectiveness of effort expended in their coursework as well as in their personal perceptions of happiness, pleasure with performance, perceived difficulty of the course, interest in the lesson being presented, and prior performance. Externally oriented students were more influenced by perceived difficulty of the course and their attitudes toward teacher performance. Internally oriented students were more influenced by IQ and their own prior performance.

Although each of the above studies showed correlations between different variables and GPA in an attempt to predict retention and/or academic performance, all research in this area has centered around motivational factors as learning theorists continue to search for an explanation. If academic achievement is a learned response, motivation, by definition, will be a determining factor in performance.

Numerous tests have been designed to measure motivation. Although there seems to be a general consensus among researchers that both positive and negative motivational sources exist, most assume that motivation is a continuum and thus movement toward one end of the continuum (such as an increase in positives) automatically

implies movement away from the other (or a decrease in negatives). Martin's Motivational Profile (MMP), however, is a survey instrument based on the Quality of Motivation Theory and designed to measure both positive and negative sources of motivation (Martin, R.C., 1975) and is therefore the testing instrument used in this study.

The Quality of Motivation Theory

The MMP is based on three major assumptions. The first assumption is that positive and negative motivation are orthogonal or independent, thus they can exist simultaneously and the level of one has no effect on the level of the other. Therefore it is necessary to measure both negative and positive motivational sources instead of assuming that an increase in one will automatically cause a decrease in the other. The resultant scores can then be plotted as a point on an X, Y graph where Y is the positive motivation score and X the negative motivation score. If scores on both scales are clustered into three levels: low, medium, and high, the result would be a nine cell diagram (see Figure 1). An average person with moderate levels of both positive and negative would be in Cell 5. A person with high positive levels of motivation and low negatives would be in Cell 1 and so on. There seem to be fairly specific behavioral characteristics that correspond with each cell. Therefore it can

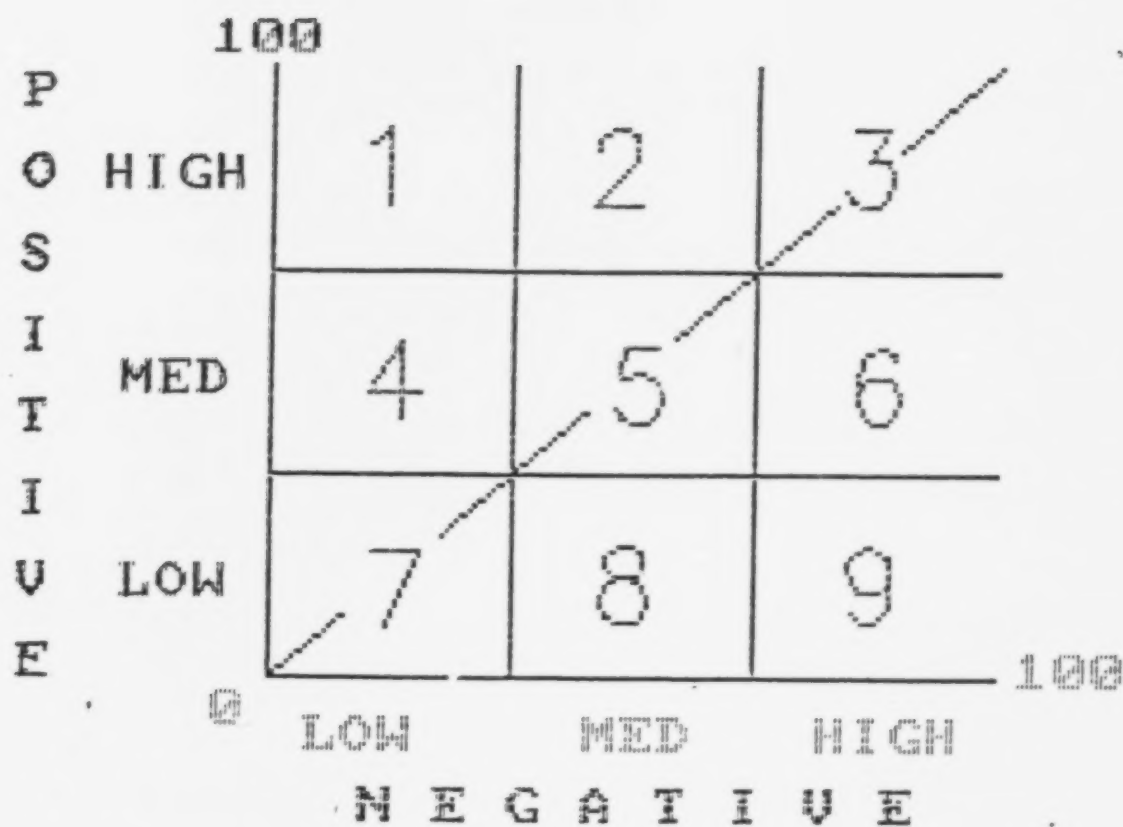


Figure 1. Motivational profile matrix.

Source: R. C. Martin (1975). Quality of motivation. Paper presented at the meeting of the Mid-western Psychological Association, Chicago.

be of benefit to a therapist both in predicting behavior and in implementing a therapeutic program to determine levels of positive and negative motivation and graphing the results.

The second major assumption is that although orthogonal, positive and negative motivation interact, the absolute sum of the two types of motivation (Total Motivation score on the MMP) provides an energy level index of the person which defines the intensity of response in any given situation without predicting the response itself. The algebraic sum (Net Difference score on the MMP) of the two types of motivation measures stability or "moodiness," providing an index of what the person is likely to do in different situations when encountering conflict when decisions must be made, punishment, or frustration, degree of curiosity, etc. An example of the deductions that follow from this principle of algebraic summation may be seen when a person suffers a major loss of a positive, such as the death of a spouse. If a person had scores of +90/-40, the absolute sum would be 130. The algebraic sum would be +50. If these scores were plotted on the nine cell diagram, the points would intersect in Cell 2 (see Figure 2). As can be seen in Figure 2, a 45° line has been drawn through the center of Cells 7, 5, and 3. A positive net difference is plotted above the line and a negative net difference below. The smaller the net difference, or the closer an individual is to the 45° line, the more one

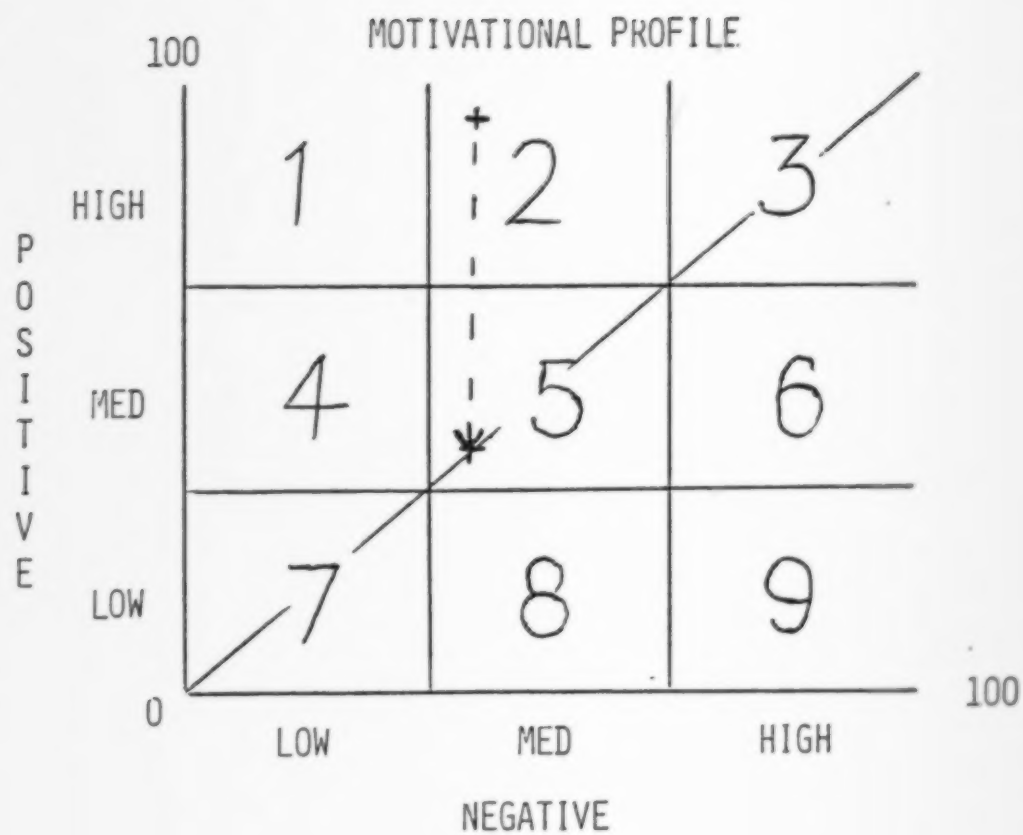


Figure 2. Example of interaction between positive and negative motivation indicating effect of major loss of a positive.

can expect mood changes or inconsistency of response because even minor changes in the levels of positive or negative sources of motivation due to normal daily fluctuations may move an individual from the positive to the negative side of the line or vice versa. These people can be very volatile individuals who seem to be in constant conflict, particularly if the energy level is also high. The sample subject in this example would be a Type 2 individual with a high level of positives and a moderate level of negatives, displaying a high energy level characterized by intense responses or reactions to any given stimulus situation. However, if this person should lose a major source of positive motivation and drop from a +90 to a +40, the energy level would correspondingly drop from 130 to 80, and there would be a zero net difference ($+40/-40=0$). As shown by the dotted arrow in Figure 2, this would move the individual into Cell 5 where the intensity of all responses would be greatly reduced and wide mood swings could be expected; a state often referred to as depression. Thus a graph will not only pinpoint the current motivational state, it will also allow a therapist to determine how stable or consistent in behavior the client is in relation to his proximity to the 45° line. The ability to predict the outcome of a major change in the level of positives or negatives obviously necessitates prior knowledge of the sources of motivation of the organism

obtained by some quantitative method of measurement such as may be accomplished with the MMP.

The third major assumption is that both negative and positive motivation may be obtained from acute (primary) sources or from chronic (learned) sources. Acute sources of motivation are usually very short lived and susceptible to loss. Chronic sources are conceptual in nature and related to past experiences. These are much more stable and resistant to daily fluctuations. Measurement of positive motivation includes sub-categories of acute or primary sources such as hunger, thirst, lust, and of chronic or learned sources such as self-esteem and praise. Measurement of negative motivation includes sub-categories of acute negative sources such as pain, noise, and fatigue, and of chronic negative sources such as fear and guilt. A measurement is also given of the negative motivational sources of fear, anxiety, and phobia as well as behavior tendencies for dealing with conflict, curiosity, and frustration. It is the difference in the relative amounts of acute versus chronic sources of motivation that will determine how stable or consistent an individual will be from day to day. Acute sources are very tenuous and a person whose principal positive sources of motivation are simple day to day pleasures will be more unstable than one whose sources are self-esteem and confidence. In order to predict behavior and thus exercise some level of control,

it becomes necessary to recognize and assess some numerical value to the different motivational sources impinging upon the organism.

Relevant (Pilot) Research

Program for Adult College Education (PACE) students enrolled in weekend conference courses at a local community college were tested using the MMP and their scores were then correlated with overall grades for the weekend course (Martin, D. M., 1984b). Subjects were assigned to groups according to class grade: "A" students (Group 1), "B" students (Group 2), "C" students (Group 3), and "D" students (Group 4). There were no significant differences between groups in terms of total positive and negative motivation. However, chronic negatives, depression, and anxiety scores all showed significant negative correlations with class grades. Subjects with the least chronic negative motivation were significantly more successful academically. Interestingly the quality of positive motivation seemed to have no bearing on GPA which supports the findings in a similar study conducted by R. C. Martin (1979). Further, "B" students exhibited the most stable and well adjusted behavior patterns according to their responses on the MMP. This group was significantly lower in acute positives than all other groups implying that their positives were based on learned sources of motivation such as self-esteem that are not so dependent on day

to day positives which are highly susceptible to loss and are often very superficial. The mean net difference was highest for "B" students indicating that this group would be least likely to show wide mood fluctuations. When a large net positive difference exists, the individual is able to tolerate aversive situations and even rather large losses of positive sources of motivation without seriously damaging the ability to function or to continue working toward goals. Often an individual with a high positive net difference will actually experience a temporary increase of energy if frustrated. Conversely, an individual with a relatively small or negative net difference who experiences the loss of even minor sources of positive motivation will find efficiency significantly impaired and will lose the ability to move toward goals. The researcher proposed further studies differentiating between male and female subjects within groups and an attempt to determine if dropout rates could be predicted by the MMP. Information from such an investigation would be useful in identifying potential dropouts so they could be given help before actually being placed on academic probation, as well as identifying and giving support to the potential "A" students.

The present study was therefore proposed to ascertain whether there were motivational profile differences between students who were on academic probation and those who were

succeeding. Further it was proposed to test differences in motivational behavioral patterns between successful males and successful females or between males and females who were struggling academically. A two by two factorial design was used to divide subjects by sex and GPA (3.85 and above and 1.0 and below). The MMP was given to each of the research volunteers to establish individual motivational profiles.

In the previously cited motivation studies (Martin, R. C., 1979; Martin, D. M., 1984b) major differences between groups were found in areas of chronic (learned) motivation and depression. Based on these studies, it is hypothesized that struggling students will show significantly higher levels of depression and anxiety and successful students will show greater stability (measured by a greater positive net difference on the MMP). The present study is designed to test this hypothesis.

CHAPTER II

METHOD

Subjects

The sample consisted of 71 full-time degree seeking community college students in Arts and Sciences. Subjects were divided into two groups: High Achieving students with GPA's of 3.85 and above identified on the President's Honor Roll (A_1), and Low Achieving students with GPA's of 1.0 and below identified on the academic probation list (A_2). Subjects of each group were further categorized according to sex: males (B_1) and females (B_2). High Achieving Males (A_1B_1) and High Achieving females (A_1B_2) each contained 18 subjects. Low Achieving Males (A_2B_1) contained 19 subjects and Low Achieving Females (A_2B_2) contained 16 subjects.

Procedure

Students who met the necessary criteria for this research (GPA's above 3.5 or below 2.0 and full-time degree seeking students of the school of arts and sciences) were initially contacted by the appropriate school officials to avoid violation of the privacy act. The students contacted were requested to participate in a research project

for the purpose of designing more effective student support programs. Volunteers selected a testing date to fit their schedules. All participants signed a participation agreement stating that the testing results could be used for research purposes with the understanding that confidentiality would be maintained.

A total of 420 volunteers were administered the MMP. A copy of the questionnaire is presented in Appendix A. GPA's were verified from the subjects' cumulative records obtained from the registrar of the college. Subjects were then divided by GPA and gender into four categories: (A_1B_1) High Achieving Males, (A_1B_2) High Achieving Females, (A_2B_2) Low Achieving Males, and (A_2B_1) Low Achieving Females.

In order to establish the most homogeneous groups possible and reduce variability, subjects were then matched according to a more strict GPA criteria (GPA's of 3.85 and above or 1.0 and below), resulting in a final sample with a total N of 71.

CHAPTER III

RESULTS

Data from the categories tested by the MMP were analyzed via a two-way analysis of variance. ANOVA tables and raw data are presented in the appendixes. A summary of mean scores is presented in Table 1.

Differences in positive motivation were not significant for sex [$F(1,67) = 1.7$, n.s.] or grades [$F(1,67) = .1$, n.s.], and there was no interaction [$F(1,67) = .8$, n.s.]. Further, differences in acute positives were not significant for sex [$F(1,67) = .5$, n.s.] or grades [$F(1,67) = .001$, n.s.] and there was no interaction [$F(1,67) = .06$, n.s.]. Nor were differences in chronic positives significant for sex [$F(1,67) = .9$, n.s.] or grades [$F(1,67) = 1.1$, n.s.], and there was no interaction [$F(1,67) = 1.5$, n.s.]. Raw data and ANOVA tables for all positive motivation scores are presented in Appendix B.

Differences in negative motivation were significant for both sex [$F(1,67) = 4.2$, $p < .05$] and grades [$F(1,67) = 30.9$, $p < .001$], as may be seen in Figure 3. Females scored significantly higher negative motivation scores in both groups. Low achievers of both sexes displayed higher negative motivation scores than high achievers.

Table 1

Mean Motivation Scores by Group

Motivation Category	Groups			
	(A ₁ B ₁) High Males	(A ₁ B ₂) High Females	(A ₂ B ₁) Low Males	(A ₂ B ₂) Low Females
Positive Motivation	62.3	61.0	63.4	57.6
Acute Positives	61.8	58.7	61.1	59.5
Chronic Positives	67.2	67.8	67.4	59.1
Negative Motivation	22.2	29.0	42.3	53.8
Acute Negatives	30.6	40.3	54.4	54.7
Chronic Negatives	18.7	24.8	40.0	51.5
Total Motivation	84.5	90.0	111.2	111.4
Net Difference	40.1	32.0	15.5	40.1
Depression	12.1	22.2	44.8	41.5
Anxiety	1.7	1.7	3.5	4.3
Fear	2.4	3.6	4.5	6.3
Negative Conflict	1.4	1.8	3.4	3.7
Negative Curiosity	.9	.9	2.4	2.1
Negative Frustration	.9	1.3	2.7	2.5

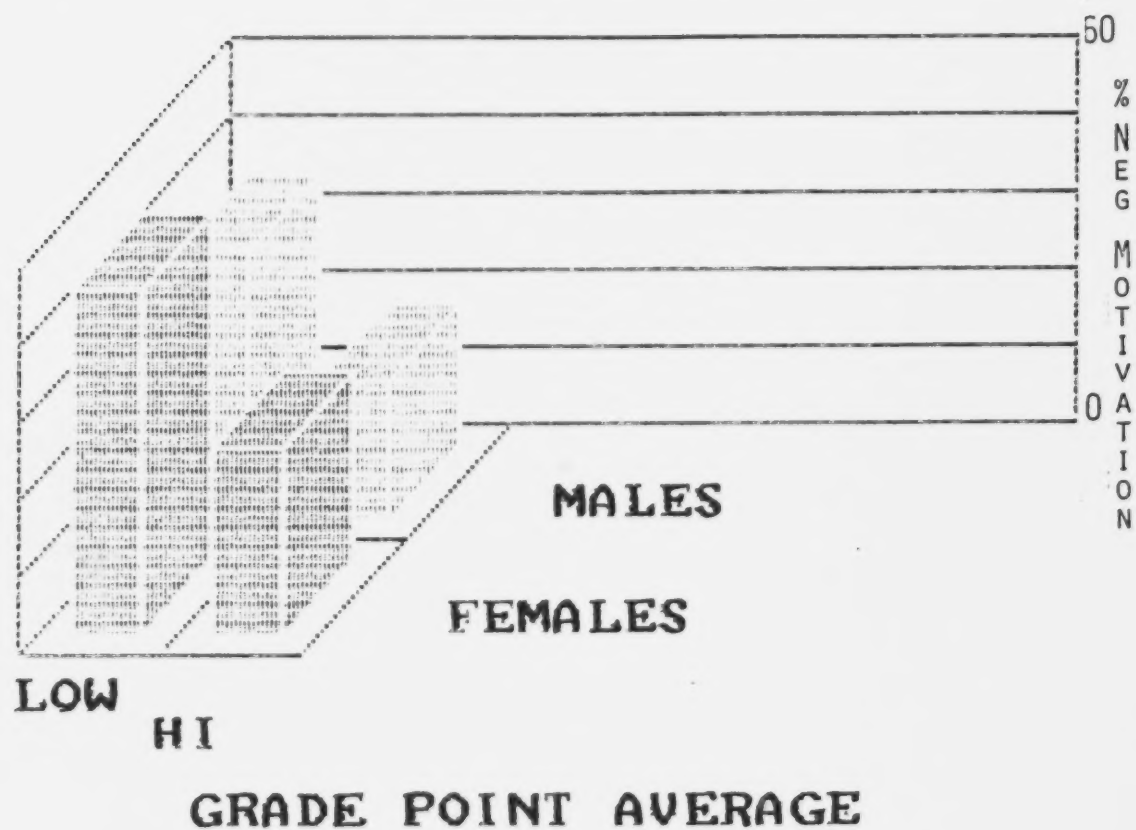


Figure 3. Relationship of negative motivation of male and female community college students to academic achievement.

There was no interaction [$F(1,67) = 1.4$, n.s.]. Further, differences in acute negatives were significantly greater in low achievers than in high achievers [$F(1,67) = 19.2$, $p < .001$], as may be seen in Figure 4. There was no reliable difference between groups according to sex [$F(1,67) = .9$, n.s.], although high achieving males displayed the least amount of acute negatives of all groups tested. There was no interaction [$F(1,67) = 1.6$, n.s.]. As may be seen in Figure 5, differences in chronic negatives were significantly higher in females [$F(1,67) = 4.9$, $p < .05$], and there was a reliable difference between high and low achievers with low achievers exhibiting reliably higher chronic negatives [$F(1,67) = 45.5$, $p < .001$]. Low achieving females scores highest in chronic negatives. There was no interaction [$F(1,67) = 1.9$, n.s.]. Raw data and ANOVA tables for all negative motivation scores are presented in Appendix C.

Differences in total motivation were significant for grades [$F(1,67) = 32.3$, $p < .001$], as may be seen in Figure 6, with low achievers scoring higher total motivation scores than high achievers. No reliable difference was found between groups according to sex [$F(1,67) = .2$, n.s.], and there was no interaction [$F(1,67) = .7$, n.s.]. Raw data and the ANOVA tables for total motivation are presented in Appendix D.

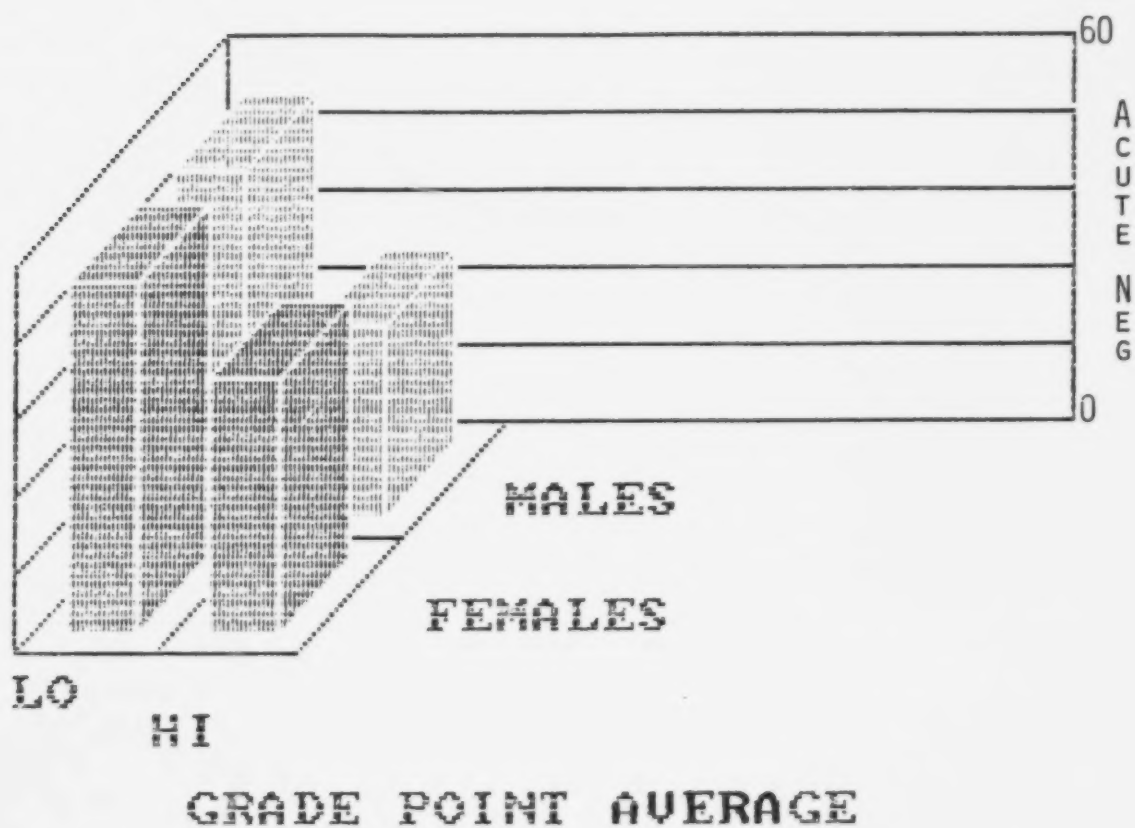


Figure 4. Relationship of acute negative motivation of male and female community college students to academic achievement.

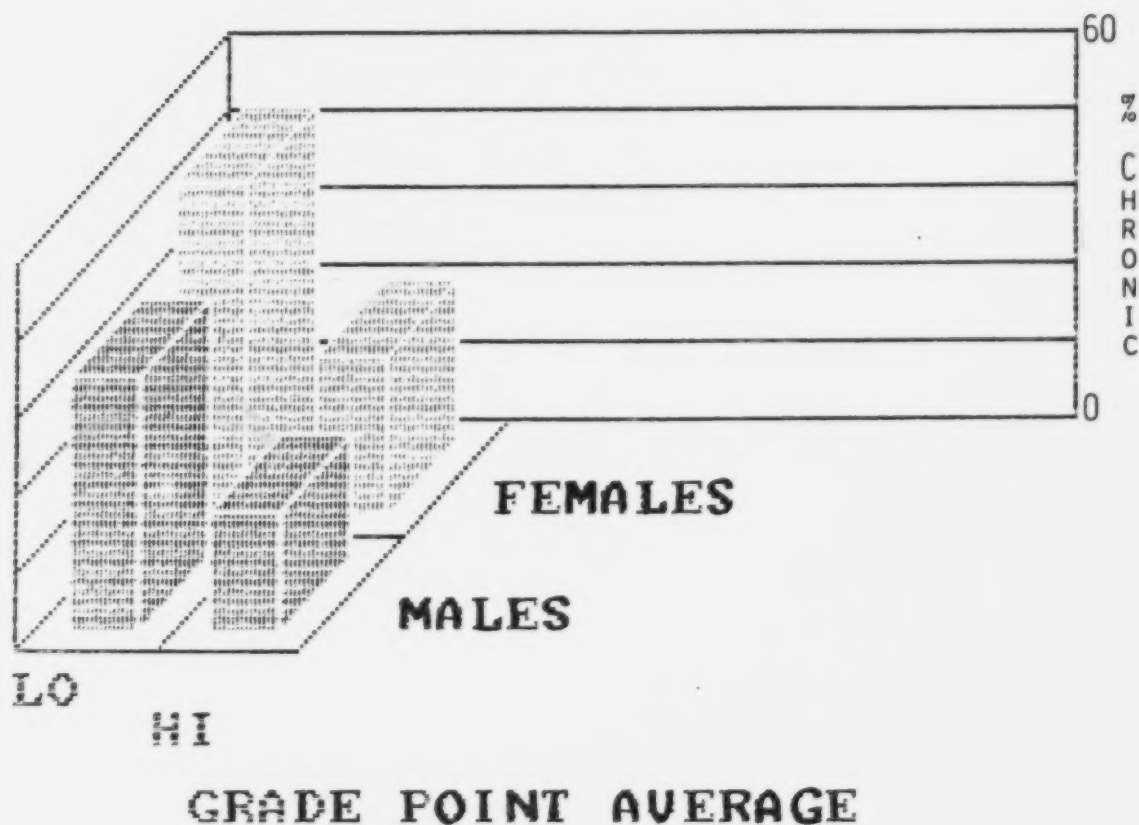


Figure 5. Relationship of chronic negative motivation of male and female community college students to academic achievement.

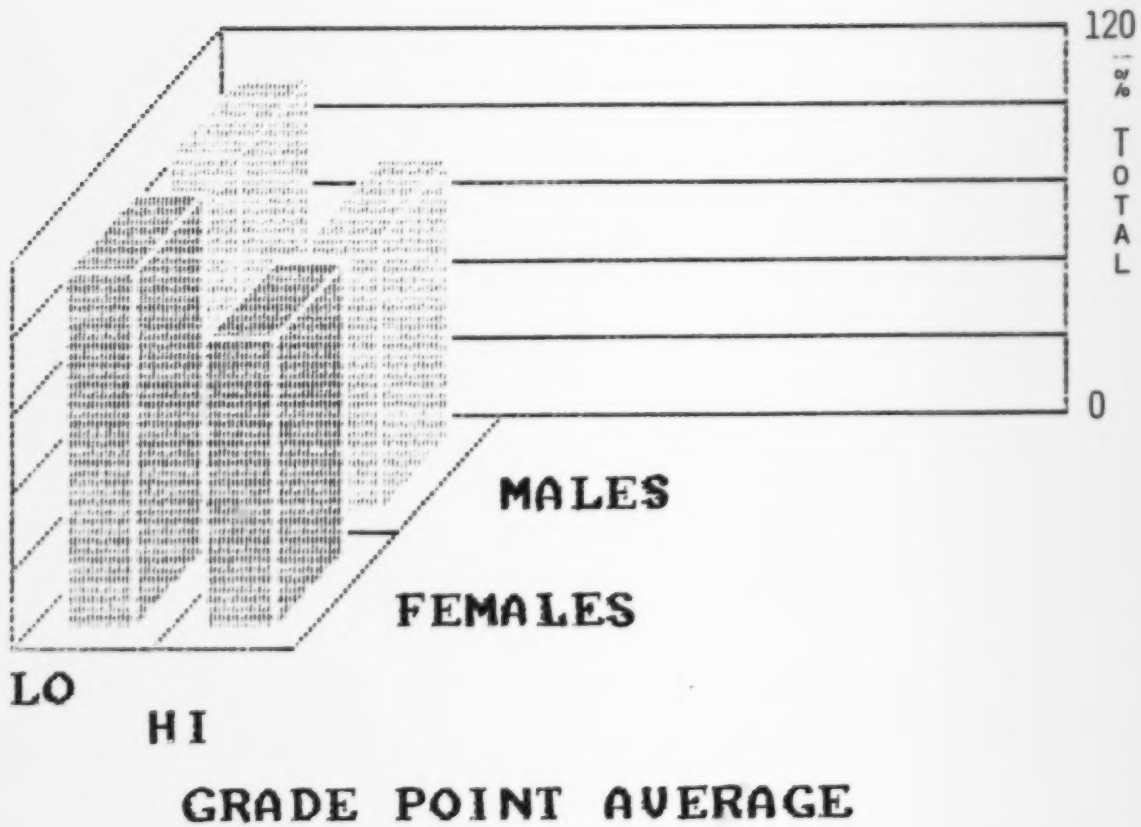


Figure 6. Relationship of total motivation of male and female community college students to academic achievement.

Net difference scores were significant for grades [$F(1,67) = 34.2, p < .001$], as may be seen in Figure 7, but there was no reliable difference between groups according to sex [$F(1,67) = 3.9, n.s.$], and there was no interaction, [$F(1,67) = 1.2, n.s.$]. Raw data and the ANOVA table for net difference scores are presented in Appendix E.

Differences in depression were significant for grades [$F(1,67) = 36.1, p < .001$] as may be seen in Figure 8. Although there was not a reliable difference between groups according to sex [$F(1,67) = .3, n.s.$] high achieving males scored lowest in depression and low achieving males the highest. There was no interaction [$F(1,67) = 2.7, n.s.$]. Raw data and the ANOVA table for depression levels are presented in Appendix F.

Differences in anxiety were significantly greater in low achievers than high achievers [$F(1,67) = 31, p < .001$] as may be seen in Figure 9, but showed no reliable differences between sexes [$F(1,67) = .4, n.s.$], although high achieving females had the least anxiety and low achieving females the most. There was no interaction [$F(1,67) = 1.3, n.s.$]. Raw data and the ANOVA table for anxiety are presented in Appendix G.

Differences in fear were significant for both sex [$F(1,67) = 8.6, p < .01$], and grades [$F(1,67) = 23.6, p < .001$] with low achievers showing more fear than high

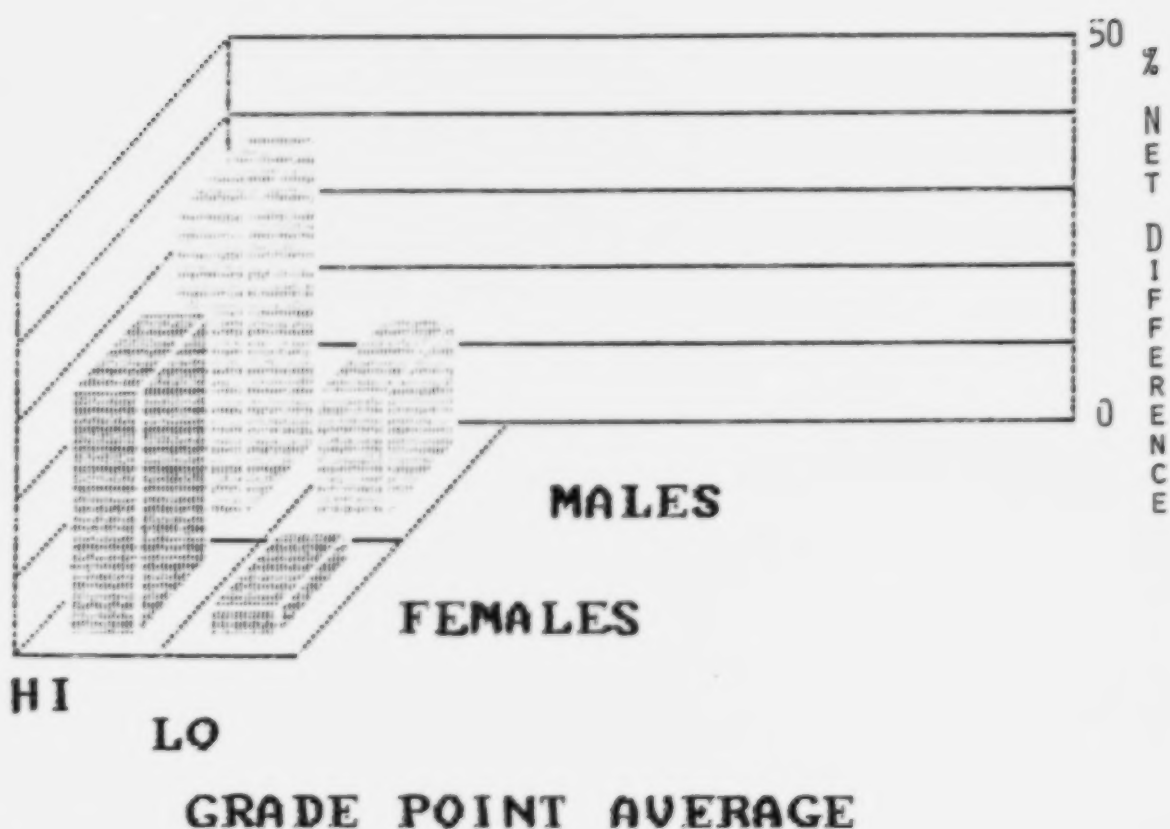


Figure 7. Relationship of net difference of male and female community college students to academic achievement.

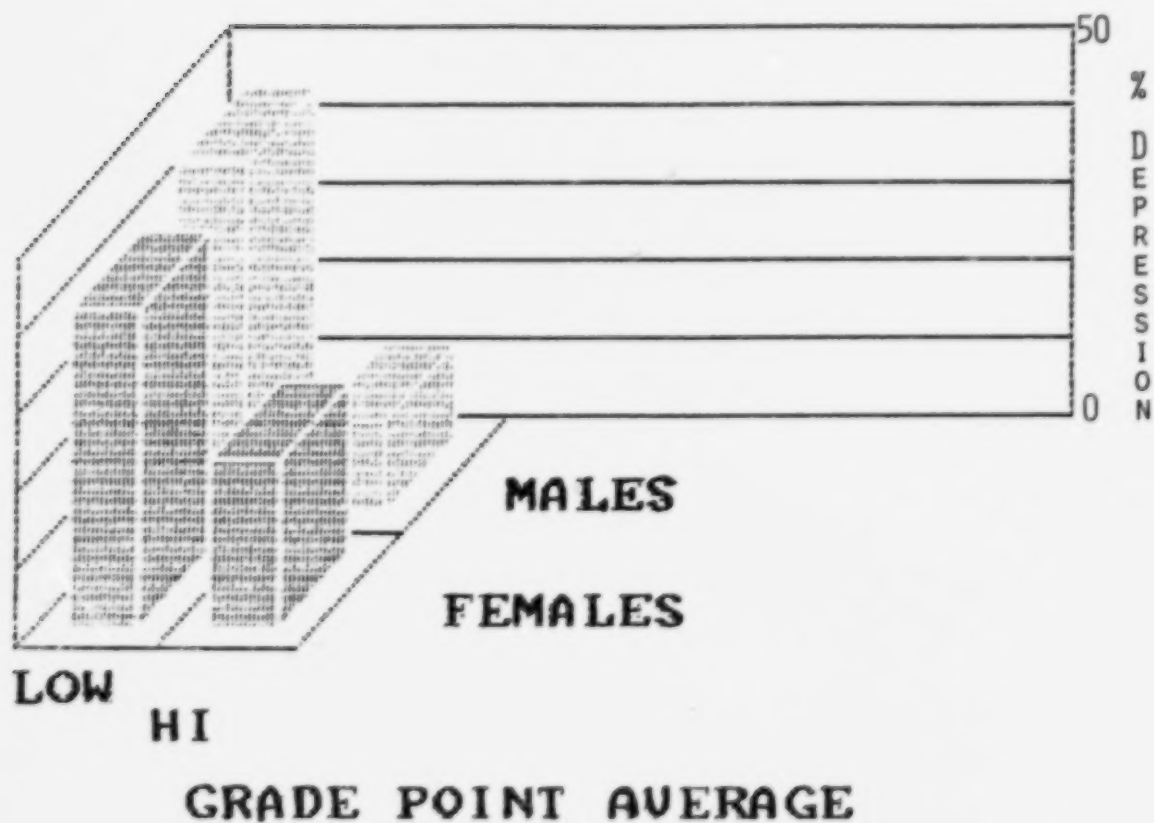


Figure 8. Relationship of depression of male and female community college students to academic achievement.

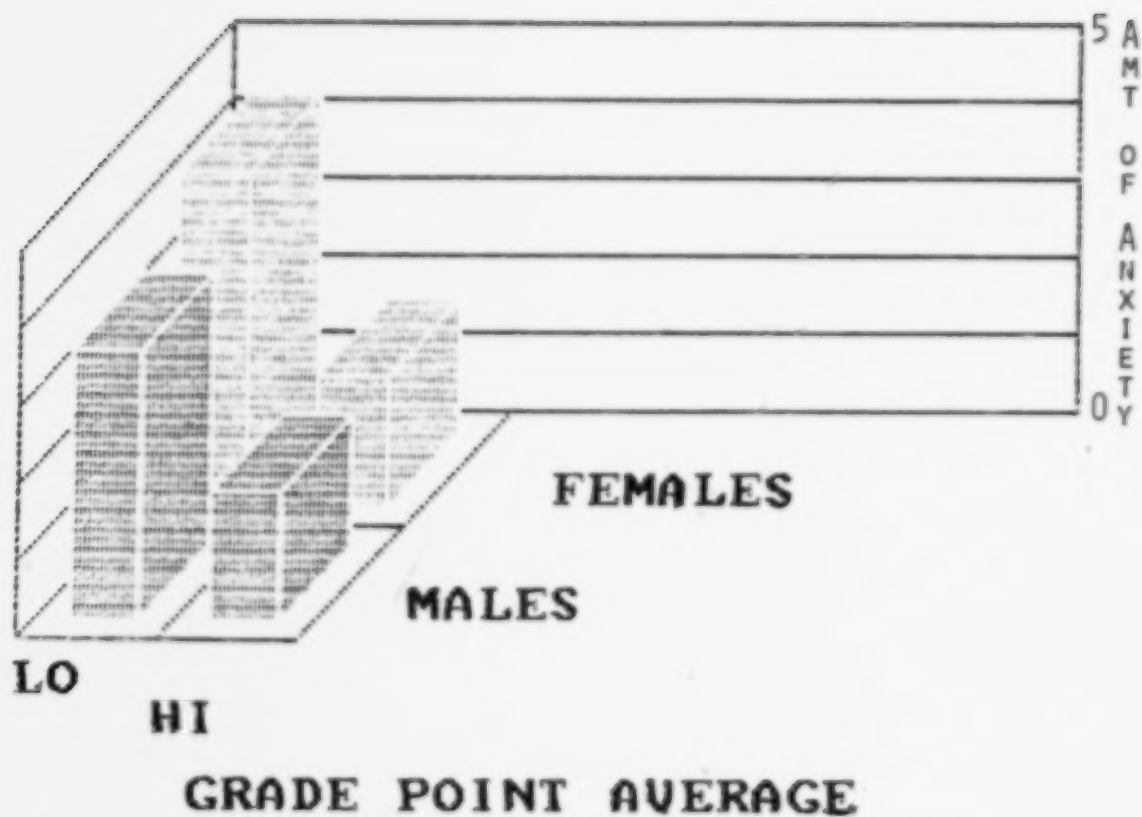


Figure 9. Relationship of anxiety of male and female community college students to academic achievement.

achievers and females having reliably more fear than males, as may be seen in Figure 10. Low achieving females displayed the greatest amount of fear and high achieving males the least. There was no interaction [$F(1,67) = 1.7, n.s.$]. Raw data and the ANOVA table for levels of fear are presented in Appendix H.

Differences in decision making ability analyzed by level of negative conflict were significant for grades [$F(1,67) = 25.5, p < .001$], with low achievers showing a reliably greater difficulty in decision making than high achievers, as may be seen in Figure 11. The differences between sexes in decision making was not significant, [$F(1,67) = .06, n.s.$], however, high achieving males had the least amount of negative conflict in decision making and low achieving females had the most. There was no interaction [$F(1,67) = 1.5, n.s.$]. Raw data and the ANOVA table for negative conflict scores are presented in Appendix I.

Differences in the level of negative curiosity were significantly greater in low achievers than high achievers [$F(1,67) = 20.4, p < .001$] as may be seen in Figure 12. Differences between sexes were not significant [$F(1,67) = .4, n.s.$], and there was no interaction [$F(1,67) = .2, n.s.$]. Raw data and the ANOVA table for negative curiosity scores are presented in Appendix J.

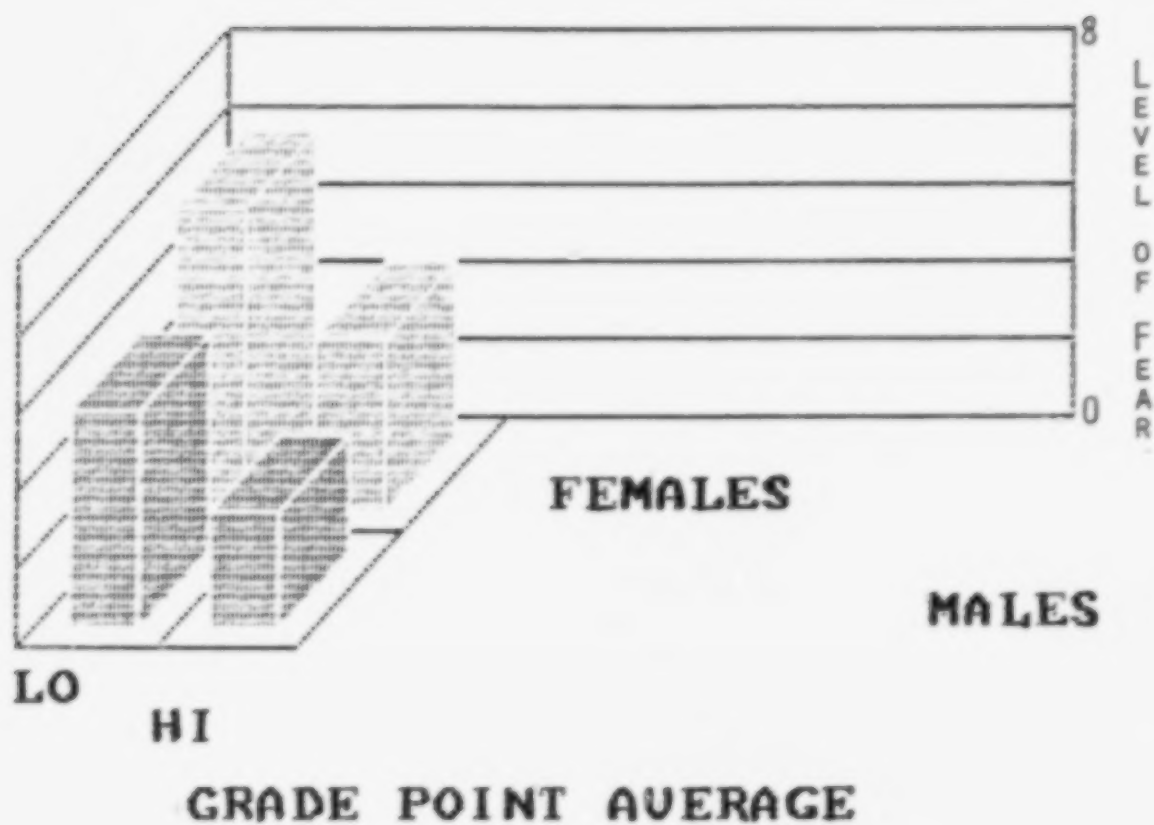


Figure 10. Relationship of fear of male and female community college students to academic achievement.

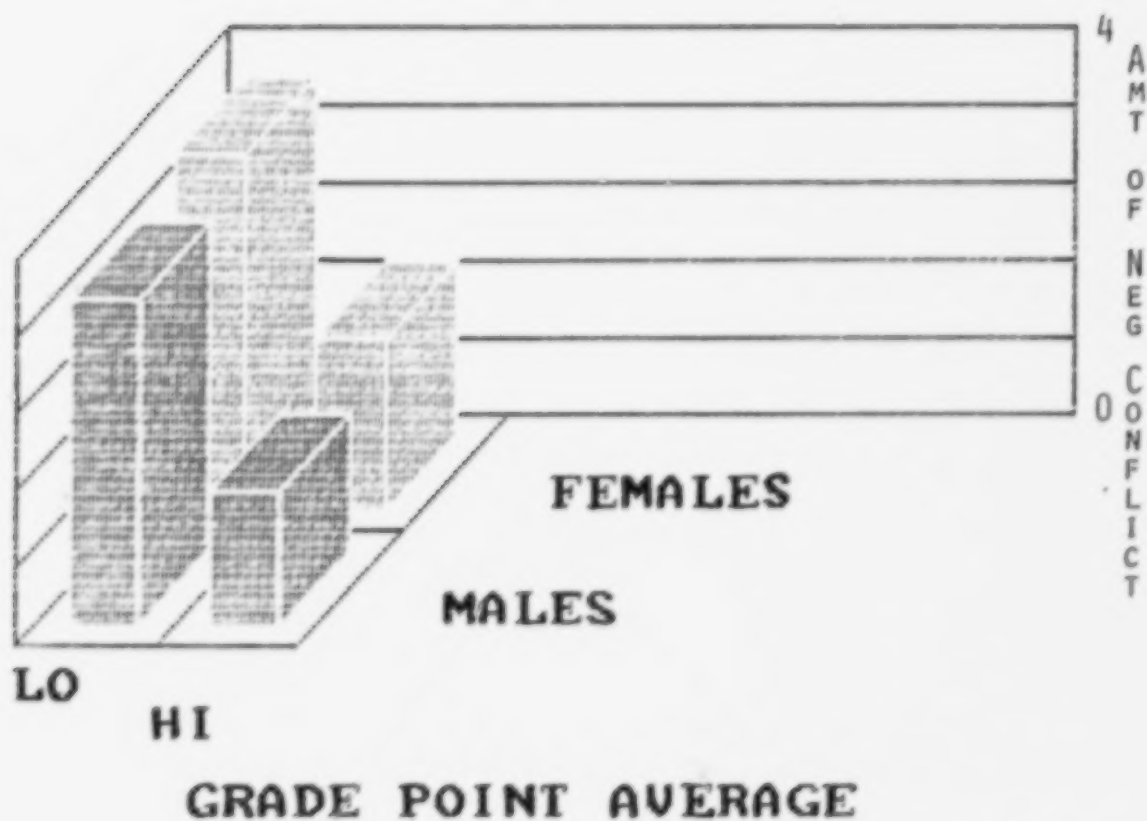


Figure 11. Relationship of negative conflict of male and female community college students to academic achievement.

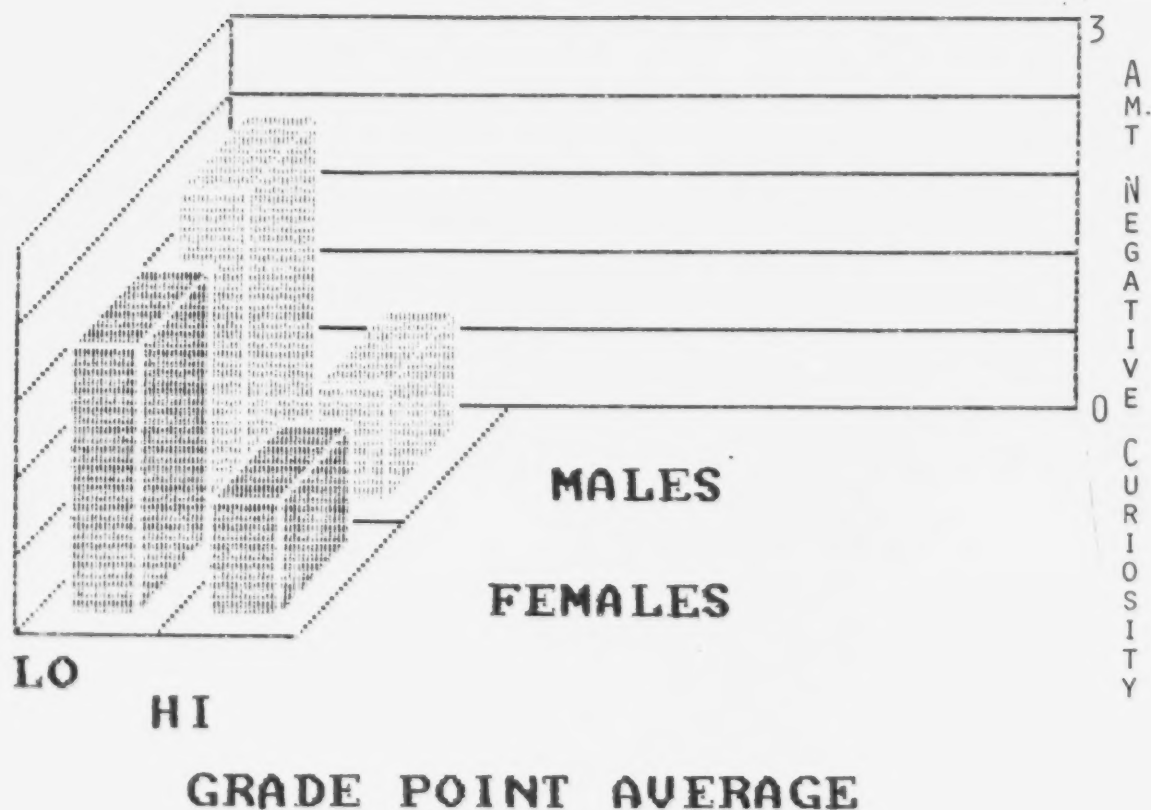


Figure 12. Relationship of negative curiosity of male and female community college students to academic achievement.

Differences in levels of negative frustration were significant for grades with low achievers displaying a significantly higher level negative frustration than high achievers [$F(1,67) = 28.7, p < .001$] as may be seen in Figure 13. There was no reliable difference between sexes [$F(1,67) = .02, n.s.$]. High achieving males had the lowest level of negative frustration and low achieving males the highest. There was no interaction [$F(1,67) = 1.6, n.s.$]. Raw data and the ANOVA table for levels of negative frustration are presented in Appendix K.

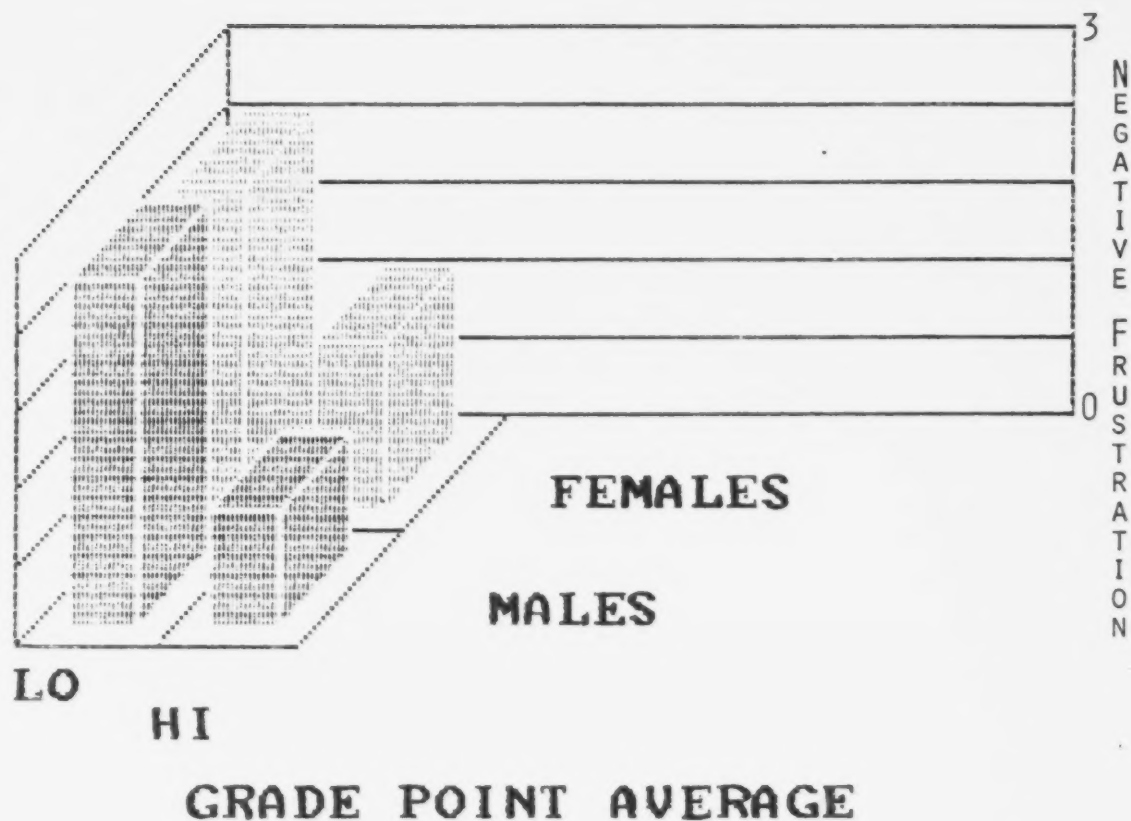


Figure 13. Relationship of negative frustration of male and female community college students to academic achievement.

CHAPTER IV

DISCUSSION

The original hypothesis that certain motivational states are related to academic performance was supported in the areas of overall negative motivation, total motivation or energy level, motivational net differences, chronic and acute negatives, depression, anxiety, fear, negative conflict, curiosity, and frustration. These findings further confirm the PACE study (Martin, D. M., 1984b) in which a significant negative correlation between grades and depression was found. However, the current study did not support either the Feldman et al. (1983) or the Edwards and Waters (1983) assumption that positive motivational sources such as pleasure with performance, happiness, and good prior performance, are accurate predictors of future achievement, particularly if a highly negative motivational source (event) has recently been introduced. In contrast, the study supports the R. C. Martin (1979) research showing that neither acute nor chronic positive motivational sources have a significant impact on academic performance.

In light of all the literature regarding positive motivational sources such as self-esteem and self confidence

and how they impact one's life, it is interesting to note that in the present study the overall positive motivational scores did not vary more than 6 percentile points between groups. A visual examination of the raw data presented in Appendix B reveals that the low achieving males actually scored highest in overall positives and the low achieving females the lowest. Further, groups were nearly equal in acute or primary positives, exhibiting approximately the same amount of simple day to day pleasures. Only 2 percentile points separated the highest (High Achieving Males) from the lowest (High Achieving Females) groups. The chronic or learned positives of self-esteem and confidence were nearly equal in all groups except Low Achieving Females who scored 8 percentile points less. It has often been posited that women chronically suffer from lower self-esteem than men. Although this study does not support such a generalization, it is interesting to note that high achieving females actually scored slightly higher than all other groups and low achieving females scored lower. Perhaps as women prove themselves academically, their self-esteem and confidence increase. However, it is equally possible that it is women who are already high in learned motivational sources that do well academically. Women with low self-esteem may do poorly because they believe they will do poorly and thus create a self-fulfilling prophecy. In either case, the differences between groups were not great

enough to show significance which strongly suggests that it is not the level of self-esteem or "good things" in one's life that will accurately predict success in the academic setting. Perhaps the discrepancy between these findings and the literature supporting positive motivation is related to the manner in which such research is typically approached and the testing instruments used. As previously discussed, the MMP is designed to measure both negative and positive sources of motivation and does not rely on the popularly held assumption that motivation is a continuum. Therefore, although positive motivation obviously has an influence on behavior, at least in this study, the relationship between positive motivation and academic performance was insignificant. This implies that regardless of how much is "going for" a person, other motivational factors can have a great influence on behavioral responses. One such strong influence is the overall level of negative motivation.

As can be seen by a visual examination of Figure 3, females in both groups scored significantly higher negative motivation scores implying that even highly successful women have a significant number of negative sources of motivation. Women in our society have traditionally been the caretakers and problem-solvers, at least domestically. Women students may feel more pressure as they juggle their time and energy between their studies, their jobs, and their

families. In both male and female low achievers, negative motivation was almost twice that of high achievers. This finding suggests that as problems increase in any area, performance or achievement in academic areas decrease. Problem solving demands tremendous energy and as problems increase, the individual's energy becomes diffused in many areas resulting in "looking for the dragons" instead of "building the castle" (Martin, R.C., 1985). Thus performance drops in all areas, as evidenced by the fact that acute negative scores were correlated negatively with grades, as shown on the graph in Figure 4. As daily problems increase, performance drastically decreases. Although high achieving females tend to experience a considerably greater number of daily problems than high achieving males, low achievers of both sexes were dealing with significantly more problems on a day to day basis than high achievers. It is possible that the high achievers have simply developed better avoidance and escape skills and are therefore able to block or eliminate negatives more successfully than low achievers. Research in the area of motivational skills could provide useful information for future studies.

The effects of negative motivation on performance is even more graphically illustrated in Figure 5 by the number of chronic negative sources encountered. Women in both groups showed a higher percentage of learned

negatives such as fear, anxiety, and insecurity. However, the differences between high and low achievers across groups was even greater, implying that persons with past histories of failure will probably continue to fail unless encouraged to change the behavior that is counterproductive.

Overall energy levels (obtained by computing the total motivation scores) were significantly higher in low achievers than in high achievers, as shown in the graph in Figure 6. This strong negative correlation between grades and total motivation scores predicts that low achievers will react more intensely, whatever response they may make. As subjects across groups displayed an almost equal amount of positive motivation, it is the higher level of negatives in low achievers that causes the significantly higher energy level. Because of the difficulty that a more negatively motivated person experiences when encountering conflict, punishment, or frustration, he will often make inappropriate or "untimely" responses. When placed in the nine cell diagram, an individual with a high-to-moderate energy level and a lot of problems will be in cell number 3, 6, 8, or 9. A Type 3 person borders on manic-depressive, experiencing such tremendous highs and lows that performance is inevitably impaired by the unrealistic goals set on good days, and the depths of despair reached on the bad ones. A Type 6 person also has a lot of anxieties, fears, and problems and performance is clouded by the extreme pessimism.

The type 8 person has very little pleasure in life and a moderate amount of problems so spends much of his time in an irritated disagreeable state. The Type 9 individual has a lot of problems and few joys and will usually be a "loner," not out of choice, but because he tends to drag others down. Because both the Type 6 and Type 9 individuals are characterized by a negative net difference and moderate-to-high energy, they will be the most suicide prone and most likely to have enough energy to follow through on such threats.

The net difference scores represent the stability or consistency of response that can be expected in various situations. As illustrated in Figure 7, the net differences between sexes approached significance with females displaying more moodiness than males. However the differences between high and low achievers were highly significant with high achievers of both sexes showing net differences more than ten times greater than those of the lowest group, Low Achieving Females. A visual examination of the raw data in Appendix E reveals that almost half of the low achieving females showed a negative net difference indicating that their principal source of both motivation and energy come from negative sources. In other words, they are primarily motivated by fear, anxiety, and insecurity. The resultant instability drives them to make inappropriate or abortive responses which often sabotage

their own best interest. In a normal individual with a high positive net difference, frustration may actually temporarily increase the energy level causing that person to make necessary decisions and move toward goals. However, in an individual with a negative net difference, conflict or frustration will paralyze the person, seriously impairing performance. Therefore it is highly significant that low achievers are so close to the forty-five degree line where even the slightest minor irritation will cause them to give up. When designing support programs for these students, it will be important to try to move them farther away from the forty-five degree line. It will be necessary to not only decrease the negatives in their lives, but also provide more sources of fun and optimism.

There is a significant negative correlation between depression and academic achievement in students. It is interesting to note in Figure 8 that the group with the lowest depression level was the High Achieving Males and the group with the highest depression level was the Low Achieving Males. This finding implies that women are able to function, but at a great price, when depressed. Perhaps women have had to cope with chronic depression and can compensate for it. A visual examination of the raw data in Appendix F reveals that the mean depression score of the high achieving males is lower than any individual score (with the exception of the sixth subject)

in the Low Achieving Male group. Extreme depression seems to have the strongest correlation with poor academic performance, particularly for the male subjects in this study.

Anxiety levels were significantly higher in low achievers. As shown in Figure 9, high achieving females scored lowest in anxiety and low achieving females scored highest. The negative correlation between anxiety and academic performance supports the Sheridan and Smith (1984) research on adolescence and stress in which low achievers frequently reported cognitive manifestations of anxiety such as polyphasic and obsessional thinking.

Women in both groups manifested a significantly greater level of fear than males and the number of fears reported by low achievers was double that of high achievers. This is graphically illustrated in Figure 10. Most frequently checked items relating to fear were those involving contact, isolation, and possible future events or misfortunes. Women seem to have more fears regarding isolation or loneliness and more concern or worry about the future. Low achievers add to that list "fear of the unknown" and the fear or dislike of social contact. Smith (1983) suggests that poorer students are remarkably deficient in social supports, often living in the presence of family strife, and overly concerned with loss (depression). Such fears could certainly undermine a student's

ability to reach out for help or even to trust support when it is offered.

Negative conflict scores were significantly greater in low achievers, shown in Figure 11, implying that when faced with a situation where a decision must be made, the low achiever will do everything possible to escape the conflict and thus refuse to make a decision. The inability to make decisions, which often takes the form of procrastination, is a serious impairment to performance.

A high negative curiosity score reveals a marked unwillingness to try new things or consider new ideas. It is not only an indication that an individual lacks a spirit of adventure, but also that there is little initiative or energy to pursue any unknown or volunteer for new tasks. Negative curiosity scores, illustrated in Figure 12, were significantly higher for low achievers and seem related to the high level of fear previously discussed. People who are afraid of contact are not likely to seek new situations outside their rather limited locus of control. And those who worry excessively about future misfortunes often stagnate as they are extremely resistant to change of any kind. They will stay in a terrible situation that is familiar rather than risk the unknown.

Not surprisingly, frustration levels were significantly higher in low achievers (see Figure 13), as poor academic performance constitutes yet another failure and source of

frustration. Individuals with low negative frustration scores will consider a disappointment a challenge and will increase efforts to succeed. In contrast, individuals with high negative frustration scores easily "lose heart" and simply give up when disappointments arise. Thus, for the already struggling student, even minor obstacles may lead to failure, particularly if there is no support system readily available to offer aid and encouragement.

Summary and Recommendations

Based on the results of this study, it appears that academic performance can be expected to reveal behavior sensitive to levels and sources of negative motivation influencing the student. Therefore a motivational profile could be a valuable tool in aiding educators in predicting probable dropouts, as well as identification of students who should be encouraged to continue on a successful track. Assistance programs should include the development of a social network of support and training in methods to help students develop a sense of control and emotional strength. Students with chronic negatives should be encouraged to participate in therapy that teaches more appropriate or effective behavioral responses. This change can be accomplished once individuals are made aware that fluctuations in both negative

and positive motivation are a daily occurrence and that many of these changes can be brought under control. It is therefore necessary to aid people in recognizing those events that are response contingent and teach them to develop behavior patterns within their sources of motivation to a degree they can be called skills. Four adaptive motivational skills identified by R. C. Martin (1985) are maintenance, avoidance, attainment, and escape. Maintenance is defined as the appropriate response necessary to block the loss of a positive. Avoidance is the response skill necessary to block the onset of a negative. Attainment is the appropriate response skill resulting in the onset of a positive. Escape is the response skill resulting in the offset of a negative. In addition, Martin recognizes two maladaptive skills. He defines self-punishment as a response contingent onset of a negative and self-sabotage as a response contingent loss of a positive. As students develop a greater awareness of their own power in controlling their world and begin to accept the responsibility of their own actions, they can begin observing and charting their own behavior patterns to help make the necessary adjustments. During interviews with various subjects from each of the test groups, it became apparent that it is the maintenance and avoidance skills that separate successful from struggling students. Even when individuals learn how to make good things happen

(attainment), they still must be taught how to keep from losing them (maintenance). In learning presentation skills one learns to block the onset of a negative (avoidance) which is much more effective and energy conserving than continually expending time and energy getting out of trouble (escape).

One limitation of this study was the use of only one testing instrument which narrows the focus to simply quality of motivation and does not assess motivational skills. Future studies might include the development and use of a motivational skills assessment questionnaire to determine skill deficiencies. The incongruities between this study and the research of Feldman and Theiss (1982) would be an appropriate topic to pursue. It is this writer's opinion that positive motivation and past prior performance may indeed predict future events, but does not exclude the possibility that the introduction of significant negative motivational sources or events can alter responses and exert a more powerful influence on behavior. A study in which subjects could be monitored over time and performance evaluated immediately following the introduction of significant positive and/or negative sources of motivation could be useful in understanding why positive influences seem so short-lived and negative influences so long lasting. High achievers should be encouraged to refine those skills that will help them

continue moving toward their goals and maintain a large positive net difference as a "safety cushion" in the event of unexpected loss. A suggested application of this research is a course designed, and perhaps required, for students on the academic probation list (or, who are identified as potential dropouts by their motivational profile scores) in which motivational skills (i.e., Successful Student's Survival Techniques) are taught. This class could provide the possibility of a smaller percentage of dropouts and a higher success ratio for previously low achieving students. The added bonus of such a class would be the rich reservoir of research material which could be gleaned by the instructor/facilitator to enhance this and future related studies.

APPENDIX A

MARTIN'S MOTIVATIONAL PROFILE

TESTING INSTRUMENT

INSTRUCTIONS

This survey consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

Some of the questions may seem strange to you. They were designed to be used with a wide variety of people. If you are unsure about the meaning of any question, try to answer it as best you can. Do not ask for help since the important thing is how you feel and how you answer the questions.

If a question is TRUE OR MOSTLY TRUE for you, then mark the "A" column. If a question is FALSE OR MOSTLY FALSE for you, then mark the "B" column.

Please use the number 2 lead pencil provided for you. The answer sheet being used was designed for various types of surveys. For this survey we are utilizing only the "A" and "B" columns of the sheet.

Your results are, of course, confidential. Be sure to answer the questions rapidly but carefully. Do not spend too much time on any question--your first impressions are best.

1. I like mechanics magazines.
2. I work under a great deal of tension.
3. I am sure I get a raw deal from life.
4. I wake up fresh and rested most mornings.
5. My daily life is full of things that keep me interested.
6. I have nightmares every few nights.
7. I enjoy detective or mystery stories.
8. I seldom worry about my health.
9. I do not read every editorial in the newspaper every day.
10. I have periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."
11. I prefer to pass by school friends or people I know but have not seen for a long time, unless they speak to me first.
12. Once in a while I put off until tomorrow what I ought to do today.
13. My judgement is better than it ever was.
14. I enjoy reading love stories.
15. I have very few quarrels with members of my family.
16. I like poetry.
17. I have met problems so full of possibilities that I have been unable to make up my mind about them.
18. I have a good appetite.
19. I usually feel that life is worth while.
20. Someone has it in for me.
21. I do not worry about catching diseases.
22. I like to go to parties and other affairs where there is lots of loud fun.

23. I commonly wonder what hidden reason another person may have for doing something nice for me.
24. I am happy most of the time.
25. I have often lost out on things because I couldn't make up my mind soon enough.
26. I would rather win than lose in a game.
27. I have never done anything dangerous for the thrill of it.
28. I am afraid when I look down from a high place.
29. I frequently have to fight against showing that I am bashful.
30. I like dramatics.
31. I like collecting flowers or growing house plants.
32. I do not have a great fear of snakes.
33. I like to cook.
34. I am worried about sex matters.
35. My sex life is satisfactory.
36. I have never felt better in my life than I do now.
37. I find it hard to make talk when I meet people.
38. Sometimes, when embarrassed, I break out in a sweat which annoys me greatly.
39. I like to study and read about things that I am working at.
40. I like to visit places where I have never been before.
41. I frequently find myself worrying about something.
42. I enjoy many different kinds of play and recreation.
43. Some of my family have habits that bother or annoy me very much.
44. I hate to have to rush when working.

45. I like to flirt.
46. It does not bother me that I am not better looking.
47. It is safer to trust nobody.
48. Everything tastes the same.
49. I like science.
50. When in a group of people I have trouble thinking of the right things to talk about.
51. I very much like hunting.
52. I have very few fears compared to my friends.
53. At times I feel like smashing things.
54. At times I feel that I can make up my mind with unusually great ease.
55. At times I have very much wanted to leave home.
56. I worry over money and business.
57. I like to talk about sex.
58. Sometimes without any reason or even when things are going wrong I feel excitedly happy, on top of the world.
59. The things that some of my family have done have frightened me.
60. I like to be with a crowd who play jokes on one another.
61. I feel anxiety about something or someone almost all the time.
62. Once a week or oftener I become very excited.
63. I usually expect to succeed in things I do.
64. I usually have to stop and think before I act even in trifling matters.
65. Often I cross the street in order not to meet someone I see.
66. I have difficulty in starting to do things.

67. I can easily make other people afraid of me and sometimes do for the fun of it.
68. I get anxious and upset when I have to make a short trip away from home.
69. I enjoy children.
70. I have several times given up doing a thing because I thought too little of my ability.
71. I have been afraid of things or people that I knew could not hurt me.
72. I have periods in which I feel unusually cheerful without any special reason.
73. I am afraid of using a knife or anything very sharp or pointed.
74. Sometimes some unimportant thought will run through my mind and bother me for days.
75. Sometimes I become so excited that I find it hard to get to sleep.
76. I very seldom have spells of the blues.
77. Almost every day something happens to frighten me.
78. I like to keep people guessing what I am going to do next.
79. I feel uneasy indoors.
80. I am attracted by members of the opposite sex.
81. I love to go to dances.
82. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.
83. I am not afraid of fire.
84. Often, even though everything is going fine for me, I feel that I don't care about anything.
85. It is great to be living in these times when so much is going on.

86. I wish I could get over worrying about things I have said that may have injured other people's feelings.
87. At times I think I am no good at all.
88. People often disappoint me.
89. I find it hard to set aside a task that I have undertaken, even for a short time.
90. I like or have liked fishing very much.
91. I am afraid to be alone in the dark.
92. My plans have frequently seemed so full of difficulties that I have had to give them up.
93. I like to read newspaper editorials.
94. I have sometimes felt that difficulties were piling up so high that I could not overcome them.
95. I enjoy gambling for small stakes.
96. I have no fear of water.
97. I enjoy social gatherings just to be with people.
98. I often must sleep over a matter before I decide what to do.
99. I do not dread seeing a doctor about a sickness or injury.
100. I enjoy the excitement of a crowd.
101. While in trains, busses, etc., I often talk to strangers.
102. It bothers me to have someone watch me at work even though I know I can do it well.
103. I enjoy stories of adventure.
104. I worry quite a bit over possible misfortunes.
105. I have had periods when I felt so full of pep that sleep did not seem necessary for days at a time.
106. It makes me nervous to have to wait.
107. I have had periods in which I lost sleep over worry.

108. I cannot do anything well.
109. The future seems hopeless to me.
110. Whenever possible I avoid being in a crowd.
111. Several times I have been the last to give up trying to do a thing.
112. I am afraid of finding myself in a closet or small closed place.
113. I like to read about history.
114. I must admit that I have at times often worried beyond reason over something that really did not matter.
115. I have no fear of spiders.
116. I like parties and socials.
117. I like to read about science.
118. I am not afraid of mice.
119. I like very much to horseback ride.
120. Several times a week I feel as if something dreadful is about to happen.
121. I like movie love scenes.
122. I shrink from facing a crisis or difficulty.
123. I am afraid of being alone in wide open spaces.
124. I wish I could be as happy as others seem to be.
125. I don't seem to care what happens to me.
126. I am apt to pass up something I want to do when others feel that it is not worth doing.
127. Even when I am with people I feel lonely much of the time.
128. Life is a strain for me much of the time.
129. Any man/woman who is able and willing to work hard has a good chance of succeeding.

APPENDIX B

POSITIVE MOTIVATION: RAW DATA AND ANOVA TABLES

POSITIVE MOTIVATION: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Positive Motivation

F/hi		F/lo		M/hi		M/lo	
71.7	5140.89	56.6	3203.56	62.3	3881.29	66	4356
73.6	5416.96	68	4624	56.6	3203.56	73.6	5416.96
47.2	2227.84	58.5	3422.25	62.3	3881.29	62.3	3881.29
62.3	3881.29	58.5	3422.25	62.3	3881.29	64.2	4121.64
62.3	3881.29	37.7	1421.29	69.8	4872.04	54.7	2992.09
62.3	3881.29	35.8	1281.64	58.5	3422.25	83	6889
71.7	5140.89	64.2	4121.64	56.6	3203.56	66	4356
56.6	3203.56	41.5	1722.25	71.7	5140.89	81.1	6577.21
71.7	5140.89	37.7	1421.29	60.4	3648.16	62.3	3881.29
69.8	4872.04	77.4	5990.76	69.8	4872.04	69.8	4872.04
73.6	5416.96	60.4	3648.16	66	4356	56.6	3203.56
39.6	1568.16	56.6	3203.56	47.2	2227.84	64.2	4121.64
43.4	1883.56	58.5	3422.25	69.8	4872.04	69.8	4872.04
43.4	1883.56	66	4356	58.5	3422.25	50.9	2590.81
54.7	2992.09	64.2	4121.64	69.8	4872.04	52.8	2787.84
52.8	2787.84	79.2	6272.64	58.5	3422.25	64.2	4121.64
75.5	5700.25			52.8	2787.84	62.3	3881.29
66	4356			67.9	4610.41	67.9	4610.41
						32.1	1030.41

1098.2	69375.36	920.8	55655.18	1120.8	70577.04	1203.8	78563.16
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean= 61		mean = 57.6		mean = 62.3		mean = 63.4	
TotSum=	4343.6	ssqrd=	18866860			F/hi sqd=1206043.	
sumMales=	2324.6	ssqrd=	5403765.			F/lo sqd=847872.6	
sumFmle=	2019	ssqrd=	4076361			M/hi sqd=1256192.	
sumHi=	2219	ssqrd=	4923961			M/lo sqd=1449134.	
sumLo=	2124.6	ssqrd=	4513925.				
C' =	265730.4						
Total SS=	8440.303						
Sex=	265940.6	-	265730.4	=	210.2415		
Grades=	265745.9	-	265730.4	=	15.54867		
S x G =	266053.1	-	265956.2	=	96.92961		
error =	8117.584						

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F
SEX	1	210.2415	210.2415	1.735268
GRADES	1	15.54867	15.54867	0.128333
S x G	1	96.92961	96.92961	0.800026
error	67	8117.584	121.1579	
TOTAL	(70)	8440.303		

ACUTE POSITIVE MOTIVATION: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Acute Positives

F/hi	S	F/lo	M/hi	M/lo			
68	4624	56	3136	68	4624	52	2704
84	7056	64	4096	48	2304	72	5184
48	2304	72	5184	68	4624	60	3600
48	2304	68	4624	60	3600	64	4096
60	3600	48	2304	64	4096	64	4096
72	5184	36	1296	60	3600	84	7056
68	4624	72	5184	48	2304	64	4096
60	3600	40	1600	64	4096	80	6400
72	5184	32	1024	60	3600	60	3600
64	4096	80	6400	64	4096	64	4096
64	4096	72	5184	68	4624	60	3600
12	144	68	4624	36	1296	52	2704
40	1600	56	3136	72	5184	76	5776
44	1936	56	3136	80	6400	52	2704
56	3136	56	3136	84	7056	56	3136
52	2704	76	5776	52	2704	44	1936
76	5776			52	2704	60	3600
68	4624			64	4096	60	3600
						36	1296

1056	66592	952	59840	1112	71008	1160	73280
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean= 58.66666		mean= 59.5		mean= 61.77777		mean= 61.05263	
TotSum= 4280		ssqrd= 18318400					
sumMales= 2272		ssqrd= 5161984		F/hi sqd= 1115136			
sumFmle= 2008		ssqrd= 4032064		F/lo sqd= 906304			
sumHi= 2168		ssqrd= 4700224		M/hi sqd= 1236544			
sumLo= 2112		ssqrd= 4460544		M/lo sqd= 1345600			
C'= 258005.6							
Total SS=12714.36							
Sex= 258103.1	-	258005.6	=	97.56492			
Grades= 258005.8	-	258005.6	=	0.258260			
S x G = 258113.9	-	258103.4	=	10.48453			
error = 12606.05							

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F
SEX	1	97.56492	97.56492	0.518548
GRADES	1	0.258260	0.258260	0.001372
S x G	1	10.48453	10.48453	0.055724
error	67	12606.05	188.1501	
TOTAL	(70)	12714.36		

CHRONIC POSITIVE MOTIVATION: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Chronic Positives

F/hi		F/lo		M/hi		M/lo	
75	5625	60	3600	75	5625	75	5625
70	4900	85	7225	70	4900	85	7225
35	1225	55	3025	75	5625	70	4900
75	5625	50	2500	70	4900	70	4900
70	4900	25	625	70	4900	45	2025
55	3025	35	1225	60	3600	80	6400
85	7225	65	4225	70	4900	70	4900
65	4225	45	2025	80	6400	75	5625
80	6400	40	1600	65	4225	60	3600
80	6400	75	5625	70	4900	85	7225
90	8100	55	3025	65	4225	50	2500
70	4900	40	1600	50	2500	80	6400
50	2500	65	4225	65	4225	75	5625
40	1600	85	7225	60	3600	50	2500
65	4225	80	6400	65	4225	35	1225
65	4225	85	7225	70	4900	90	8100
85	7225			50	2500	65	4225
65	4225			80	6400	95	9025
						25	625

1220	86550	945	61375	1210	82550	1280	92650
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean= 67.77777		mean= 59.0625		mean= 67.22222		mean= 67.36842	
TotSum=	4655	ssqrd=	21669025				
sumMales=	2490	ssqrd=	6200100		F/hi sqd= 1488400		
sumFmle=	2165	ssqrd=	4687225		F/lo sqd= 893025		
sumHi=	2430	ssqrd=	5904900		M/hi sqd= 1464100		
sumLo=	2225	ssqrd=	4950625		M/lo sqd= 1638400		
C' = 305197.5							
Total SS=17927.46							
Sex= 305429.8	-	305197.5	=	232.2938			
Grades= 305471.4	-	305197.5	=	273.8933			
S x G = 306073.4	-	305703.7	=	369.6967			
error = 17051.58							

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F
SEX	1	232.2938	232.2938	0.912741
GRADES	1	273.8933	273.8933	1.076196
S x G	1	369.6967	369.6967	1.452632
error	67	17051.58	254.5012	
TOTAL	(70)	17927.46		

APPENDIX C

NEGATIVE MOTIVATION: RAW DATA AND ANOVA TABLES

NEGATIVE MOTIVATION: Raw Scores and ANOVA Table
ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Negative Motivation

F/hi		F/lo		M/hi		M/lo	
20.3	412.09	33.9	1149.21	30.5	930.25	49.2	2420.64
28.8	829.44	17	289	18.6	345.96	61	3721
55.9	3124.81	61	3721	30.5	930.25	50.9	2590.81
44.1	1944.81	78	6084	30.5	930.25	62.7	3931.29
44.1	1944.81	71.2	5069.44	23.7	561.69	44.1	1944.81
5.1	26.01	54.2	2937.64	8.5	72.25	39	1521
23.7	561.69	61	3721	18.6	345.96	47.5	2256.25
5.1	26.01	37.3	1391.29	13.6	184.96	28.8	829.44
18.6	345.96	49.2	2420.64	15.3	234.09	67.8	4596.84
27.1	734.41	45.8	2097.64	23.7	561.69	54.2	2937.64
66.1	4369.21	32.2	1036.84	62.7	3931.29	33.9	1149.21
35.6	1267.36	66.1	4369.21	27.1	734.41	52.5	2756.25
18.6	345.96	47.5	2256.25	20.3	412.09	47.5	2256.25
42.4	1797.76	71.2	5069.44	8.5	72.25	39	1521
11.9	141.61	66.1	4369.21	11.9	141.61	66.1	4369.21
30.5	930.25	69.5	4830.25	11.9	141.61	37.3	1391.29
22	484			13.6	184.96	22.5	506.25
22	484			30.5	930.25		0
							0

521.9	19770.19	861.2	50812.06	400	11645.82	804	40699.18
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean=	28.99444	mean=	53.825	mean=	22.22222	mean=	42.31578
TotSum=	2587.1	ssqrd=	6693086.				
sumMales=	1204	ssqrd=	1449616	F/hi	sqd=272379.6		
sumFmle=	1383.1	ssqrd=	1912965.	F/lo	sqd=741665.4		
sumHi=	921.9	ssqrd=	849899.6	M/hi	sqd= 160000		
sumLo=	1665.2	ssqrd=	2772891.	M/lo	sqd= 646416		
C ² =	94268.82						
Total SS=	28658.42						
Sex=	95442.50	-	94268.82	=	1173.682		
Grades=	102833.7	-	94268.82	=	8564.958		
S x G =	104397.0	-	104007.4	=	389.6108		
error =	18530.17						

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F	
SEX	1	1173.682	1173.682	4.243712 *	* p < .05
GRADES	1	8564.958	8564.958	30.96852 **	** p < .001
S x G	1	389.6108	389.6108	1.408725	
error	67	18530.17	276.5697		
TOTAL	(70)	28658.42			

ACUTE NEGATIVE MOTIVATION: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Acute Negative

F/hi	F/lo	M/hi	M/lo
33.3 1108.89	33.3 1108.89	58.3 3398.89	41.7 1738.89
16.7 278.89	25 625	25 625	83.8 7022.44
83.3 6938.89	66.7 4448.89	58.3 3398.89	41.7 1738.89
58.3 3398.89	66.7 4448.89	25 625	66.7 4448.89
66.7 4448.89	66.7 4448.89	25 625	33.3 1108.89
16.7 278.89	33.3 1108.89	25 625	41.7 1738.89
33.3 1108.89	75 5625	25 625	66.7 4448.89
25 625	8.3 68.89	25 625	50 2500
33.3 1108.89	50 2500	25 625	66.7 4448.89
33.3 1108.89	50 2500	25 625	75 5625
75 5625	50 2500	66.7 4448.89	33.3 1108.89
41.7 1738.89	58.3 3398.89	41.7 1738.89	50 2500
33.3 1108.89	66.7 4448.89	41.7 1738.89	58.3 3398.89
33.3 1108.89	75 5625	25 625	41.7 1738.89
25 625	75 5625	8.3 68.89	91.7 8408.89
33.3 1108.89	75 5625	8.3 68.89	58.3 3398.89
33.3 1108.89		16.7 278.89	58.3 3398.89
50 2500		25 625	25 625
			50 2500

724.8 35329.46	875 54106.12	550 21391.12	1033.9 61898.01
sum sm of sq	sum sm of sq	sum sm of sq	sum sm of sq
mean= 40.26666	mean= 54.6875	mean= 30.55555	mean= 54.41578
TotSum= 3183.7	ssqrd= 10135945		
sumMales= 1583.9	ssqrd= 2508739.	F/hi sqd=525335.0	
sumFmle= 1599.8	ssqrd= 2559360.	F/lo sqd= 765625	
sumHi= 1274.8	ssqrd= 1625115.	M/hi sqd= 302500	
sumLo= 1908.9	ssqrd= 3643899.	M/lo sqd=1068949.	
C ² = 142759.7			
Total SS=29964.91			
Sex= 143079.0	- 142759.7	= 319.2592	
Grades= 149253.4	- 142759.7	= 6493.691	
S x G = 150102.8	- 149572.7	= 530.1330	
error = 22621.82			

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F
SEX	1	319.2592	319.2592	0.945563
GRADES	1	6493.691	6493.691	19.23263 **
S x G	1	530.1330	530.1330	1.570117
error	67	22621.82	337.6392	
TOTAL	(70)	29964.91		

CHRONIC NEGATIVE MOTIVATION: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Chronic Negative

F/hi	F/lo	M/hi	M/lo
18.2 331.24	33.3 1108.89	21.2 449.44	42.4 1797.76
30.3 918.09	15.2 231.04	21.2 449.44	42.4 1797.76
42.4 1797.76	63.6 4044.96	21.2 449.44	57.6 3317.76
42.4 1797.76	75.8 5745.64	21.2 449.44	60.6 3672.36
42.4 1797.76	75.8 5745.64	15.2 231.04	48.5 2352.25
3 9	51.5 2652.25	6.1 37.21	33.3 1108.89
24.2 585.64	60.6 3672.36	21.2 449.44	33.3 1108.89
0 0	36.4 1324.96	15.2 231.04	12.1 146.41
15.2 231.04	39.4 1552.36	18.2 331.24	57.6 3317.76
15.2 231.04	45.5 2070.25	15.2 231.04	33.3 1108.89
60.6 3672.36	27.3 745.29	57.6 3317.76	30.3 918.09
36.4 1324.96	66.7 4448.89	30.3 918.09	42.4 1797.76
12.1 146.41	42.4 1797.76	12.1 146.41	36.4 1324.96
36.4 1324.96	63.6 4044.96	6.1 37.21	33.3 1108.89
9.1 82.81	66.7 4448.89	3 9	48.5 2352.25
30.3 918.09	60.6 3672.36	9.1 82.81	33.3 1108.89
18.2 331.24		15.2 231.04	30.3 918.09
9.1 82.81		27.3 745.29	33 1089
			51.5 2652.25
445.5 15582.97	824.4 47306.5	336.6 8796.38	760.1 32998.91
sum sm of sq	sum sm of sq	sum sm of sq	sum sm of sq
mean= 24.75	mean= 51.525	mean= 18.7	mean= 40.00526
TotSum= 2366.6	ssqrd= 5600795.		
sumMales= 1096.7	ssqrd= 1202750.	F/hi sqd=198470.2	
sumFmle= 1269.9	ssqrd= 1612646.	F/lo sqd=679635.3	
sumHi= 782.1	ssqrd= 611680.4	M/hi sqd=113299.5	
sumLo= 1584.5	ssqrd= 2510640.	M/lo sqd=577752.0	
C* = 78884.44			
Total SS=25800.31			
Sex= 79937.54	- 78884.44	= 1053.101	
Grades= 88723.70	- 78884.44	= 9839.256	
S x G = 90205.75	- 89776.80	= 428.9531	
error = 14479.00			

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F	
SEX	1	1053.101	1053.101	4.873110 *	* p < .05
GRADES	1	9839.256	9839.256	45.53007 **	** p < .001
S x G	1	428.9531	428.9531	1.984933	
error	67	14479.00	216.1045		
TOTAL	(70)	25800.31			

APPENDIX D

TOTAL MOTIVATION: RAW DATA AND ANOVA TABLE

TOTAL MOTIVATION: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Total Motivation

F/hi		F/lo		M/hi		M/lo	
92	8464	90.5	8190.25	92.8	8611.84	115.2	13271.04
102.4	10485.76	84.9	7208.01	75.3	5670.09	134.6	18117.16
103.1	10629.61	119.5	14280.25	92.8	8611.84	113.1	12791.61
106.3	11299.69	136.5	18632.25	92.8	8611.84	126.9	16103.61
106.3	11299.69	108.9	11859.21	93.5	8742.25	98.8	9761.44
67.4	4542.76	90.1	8118.01	67	4489	122	14884
95.4	9101.16	125.2	15675.04	75.2	5655.04	113.5	12882.25
61.7	3806.89	78.8	6209.44	85.3	7276.09	110	12100
90.3	8154.09	86.9	7551.61	75.6	5715.36	130.1	16926.01
96.9	9389.61	123.1	15153.61	93.5	8742.25	124.1	15400.81
139.7	19516.09	92.6	8574.76	128.8	16589.44	90.5	8190.25
75.2	5655.04	122.7	15055.29	74.3	5520.49	116.7	13618.89
62.4	3893.76	106	11236	90.2	8136.04	117.3	13759.29
85.8	7361.64	137.2	18823.84	67	4489	89.9	8082.01
66.6	4435.56	130.3	16978.09	81.7	6674.89	118.9	14137.21
83.3	6938.89	148.7	22111.69	70.4	4956.16	101.4	10281.96
97.5	9506.25			66.4	4408.96	99.6	9920.16
88.1	7761.61			98.4	9682.56	105.2	11067.04
						84.6	7157.16

1620.4	152242.1	1781.9	205657.3	1521	132583.1	2112.4	238451.9
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean=	90.02222	mean=	111.3687	mean=	84.5	mean=	111.1789
TotSum=	7035.7	ssqrd=	49501074				
sumMales=	3633.4	ssqrd=	13201595	F/hi	sqd=2625696.		
sumFmle=	3402.3	ssqrd=	11575645	F/lo	sqd=3175167.		
sumHi=	3141.4	ssqrd=	9868393.	M/hi	sqd= 2313441		
sumLo=	3894.3	ssqrd=	15165572	M/lo	sqd=4462233.		
C'=	697198.2						
Total SS=	31736.25						
Sex=	697260.0	-	697198.2	=	61.80333		
Grades=	707424.1	-	697198.2	=	10225.89		
S x G =	707698.8	-	707485.9	=	212.9640		
error =	21235.59						

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F		
SEX	1	61.80333	61.80333	0.194994		
GRADES	1	10225.89	10225.89	32.26350 **	** p < .001	
S x G	1	212.9640	212.9640	0.671918		
error	67	21235.59	316.9492			
TOTAL	(70)	31736.25				

APPENDIX E

NET DIFFERENCE: RAW DATA AND ANOVA TABLE

NET DIFFERENCES: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Net Difference

F/hi		F/lo		M/hi		M/lo	
51.4	2641.96	22.7	515.29	31.8	1011.24	16.9	285.61
44.8	2007.04	51	2601	38	1444	12.6	158.76
-8.8	77.44	-2.5	6.25	31.8	1011.24	11.4	129.96
18.2	331.24	-19.5	380.25	31.8	1011.24	1.4	1.96
18.2	331.24	-33.5	1122.25	46.1	2125.21	10.7	114.49
57.2	3271.84	-18.4	338.56	50	2500	44	1936
48	2304	3.1	9.61	38	1444	18.6	345.96
51.5	2652.25	4.2	17.64	58.1	3375.61	52.3	2735.29
53.1	2819.61	-11.4	129.96	45.1	2034.01	-5.5	30.25
42.7	1823.29	31.6	998.56	46.1	2125.21	15.6	243.36
7.5	56.25	28.2	795.24	3.3	10.89	22.7	515.29
4	16	-9.5	90.25	20.1	404.01	11.6	134.56
24.8	615.04	11	121	49.5	2450.25	22.4	501.76
1	1	-5.2	27.04	50	2500	12	144
42.9	1840.41	-2	4	58	3364	-13.3	176.89
22.3	497.29	9.8	96.04	46.6	2171.56	26.9	723.61
53.4	2851.56			39.3	1544.49	25	625
44	1936			37.4	1398.76	30.6	936.36
						-20.5	420.25

576.2	26073.46	59.6	7252.94	721	31925.72	295.4	10159.36
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean=	32.01111	mean=	3.725	mean=	40.05555	mean=	15.54736
TotSum=	1652.2	ssqrd=	2729764.				
sumMales=	1016.4	ssqrd=	1033068.			F/hi sqd=	332006.4
sumFmle=	635.8	ssqrd=	404241.6			F/lo sqd=	3552.16
sumHi=	1297.2	ssqrd=	1682727.			M/hi sqd=	519841
sumLo=	355	ssqrd=	126025			M/lo sqd=	87261.16
C' =	38447.39						
Total SS=	36964.08						
Sex=	39810.24	-	38447.39	=	1362.850		
Grades=	50343.15	-	38447.39	=	11895.76		
S x G =	52139.56	-	51706.00	=	433.5555		
error =	23271.91						

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F	
SEX	1	1362.850	1362.850	3.923655	
GRADES	1	11895.76	11895.76	34.24797	**
S x G	1	433.5555	433.5555	1.248209	** p < .001
error	67	23271.91	347.3420		
TOTAL	(70)	36964.08			

APPENDIX F

DEPRESSION LEVELS: RAW DATA AND ANOVA TABLE

DEPRESSION LEVELS: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Depression

F/hi		F/lo		M/hi		M/lo	
9.1	82.81	9.1	82.81	18.2	331.24	27.3	745.29
18.2	331.24	18.2	331.24	0	0	63.6	4044.96
63.6	4044.96	27.3	745.29	18.2	331.24	45.5	2070.25
18.2	331.24	63.6	4044.96	0	0	36.4	1324.96
54.6	2981.16	54.6	2981.16	9.1	82.81	36.4	1324.96
0	0	45.5	2070.25	0	0	9.1	82.81
36.1	1303.21	36.4	1324.96	0	0	36.4	1324.96
9.1	82.81	36.4	1324.96	9.1	82.81	45.5	2070.25
27.3	745.29	63.6	4044.96	9.1	82.81	81.8	6691.24
27.3	745.29	63.6	4044.96	9.1	82.81	45.5	2070.25
54.6	2981.16	63.6	4044.96	45.5	2070.25	63.6	4044.96
18.2	331.24	9.1	82.81	0	0	18.2	331.24
0	0	36.4	1324.96	0	0	54.6	2981.16
27.3	745.29	36.4	1324.96	0	0	45.5	2070.25
0	0	54.6	2981.16	18.2	331.24	81.8	6691.24
9.1	82.81	45.5	2070.25	9.1	82.81	18.2	331.24
18.2	331.24			36.4	1324.96	27.3	745.29
9.1	82.81			36.4	1324.96	54.6	2981.16
						59.6	3552.16

400	15202.56	663.9	32824.65	218.4	6127.94	850.9	45478.63
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean=	22.22222	mean=	41.49375	mean=	12.13333	mean=	44.78421
TotSum=	2133.2	ssqrd=	4550542.				
sumMales=	1069.3	ssqrd=	1143402.		F/hi sqd=	160000	
sumFmle=	1063.9	ssqrd=	1131883.		F/lo sqd=	440763.2	
sumHi=	618.4	ssqrd=	382418.5		M/hi sqd=	47698.56	
sumLo=	1514.8	ssqrd=	2294619.		M/lo sqd=	724030.8	
C'=	64092.14						
Total SS=	35541.63						
Sex=	64193.45	-	64092.14	=	101.3084		
Grades=	76183.28	-	64092.14	=	12091.13		
S x G =	77193.39	-	76284.59	=	908.8040		
error =	22440.38						

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F	
SEX	1	101.3084	101.3084	0.302475	
GRADES	1	12091.13	12091.13	36.10036	**
S x G	1	908.8040	908.8040	2.713405	** p < .001
error	67	22440.38	334.9311		
TOTAL	(70)	35541.63			

APPENDIX G

ANXIETY LEVELS: RAW DATA AND ANOVA TABLE

ANXIETY LEVELS: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Anxiety

F/hi		F/lo		M/hi		M/lo	
0	0	3	9	0	0	4	16
0	0	3	9	0	0	3	9
5	25	4	16	1	1	6	36
4	16	6	36	2	4	6	36
3	9	6	36	3	9	2	4
0	0	6	36	1	1	5	25
2	4	4	16	0	0	4	16
0	0	2	4	2	4	1	1
1	1	4	16	2	4	4	16
1	1	6	36	3	9	4	16
6	36	5	25	7	49	2	4
3	9	2	4	3	9	4	16
0	0	6	36	1	1	3	9
2	4	3	9	1	1	3	9
0	0	5	25	1	1	4	16
2	4	3	9	0	0	4	16
0	0			2	4	1	1
1	1			2	4	2	4
						5	25

30	110	68	322	31	101	67	275
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean= 1.666666		mean= 4.25		mean= 1.722222		mean= 3.526315	
TotSum= 196	ssqrd= 38416						
sumMales= 98	ssqrd= 9604			F/hi sqd= 900			
sumFmle= 98	ssqrd= 9604			F/lo sqd= 4624			
sumHi= 61	ssqrd= 3721			M/hi sqd= 961			
sumLo= 135	ssqrd= 18225			M/lo sqd= 4489			
C' = 541.0704							
Total SS=266.9295							
Sex= 542.0381	-	541.0704	=	0.967733			
Grades= 624.0753	-	541.0704	=	83.00497			
S x G = 628.6520	-	625.0431	=	3.608916			
error = 179.3479							

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F	
SEX	1	0.967733	0.967733	0.361521	
GRADES	1	83.00497	83.00497	31.00862	**
S x G	1	3.608916	3.608916	1.348202	** p < .001
error	67	179.3479	2.676835		
TOTAL	(70)	266.9295			

APPENDIX H

LEVEL OF FEAR: RAW DATA AND ANOVA TABLE

LEVEL OF FEAR: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: Fear

F/hi		F/lo		M/hi		M/lo	
4	16	5	25	5	25	5	25
6	36	2	4	3	9	3	9
4	16	8	64	3	9	6	36
5	25	9	81	3	9	8	64
7	49	10	100	2	4	8	64
1	1	6	36	1	1	2	4
4	16	8	64	3	9	4	16
0	0	6	36	1	1	0	0
2	4	4	16	1	1	6	36
2	4	6	36	2	4	3	9
6	36	6	36	5	25	3	9
3	9	8	64	4	16	4	16
4	16	3	9	2	4	4	16
6	36	3	9	1	1	4	16
3	9	9	81	0	0	6	36
4	16	7	49	3	9	3	9
3	9			1	1	5	25
1	1			4	16	5	25
						6	36

65	299	100	710	44	144	85	451
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean=	3.611111	mean=	6.25	mean=	2.444444	mean=	4.473684
TotSum=	294	ssqrd=	86436				
sumMales=	129	ssqrd=	16641	F/hi sqd=	4225		
sumFmle=	165	ssqrd=	27225	F/lo sqd=	10000		
sumHi=	109	ssqrd=	11881	M/hi sqd=	1936		
sumLo=	185	ssqrd=	34225	M/lo sqd=	7225		
C'=	1217.408						
Total SS=	386.5915						
Sex=	1250.492	-	1217.408	=	33.08360		
Grades=	1307.884	-	1217.408	=	90.47646		
S x G =	1347.540	-	1340.968	=	6.572414		
error =	256.4590						

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F	
SEX	1	33.08360	33.08360	8.643099 *	* p < .01
GRADES	1	90.47646	90.47646	23.63700 **	** p < .001
S x G	1	6.572414	6.572414	1.717045	
error	67	256.4590	3.827747		
TOTAL	(70)	386.5915			

APPENDIX I

NEGATIVE CONFLICT: RAW DATA AND ANOVA TABLE

NEGATIVE CONFLICT: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: (-)Conflict

F/hi		F/lo		M/hi		M/lo	
1	1	3	9	2	4	4	16
3	9	3	9	1	1	6	36
4	16	2	4	1	1	1	1
3	9	5	25	4	16	3	9
3	9	4	16	5	25	2	4
0	0	5	25	0	0	3	9
1	1	4	16	1	1	4	16
0	0	4	16	0	0	3	9
0	0	3	9	0	0	6	36
3	9	5	25	5	25	6	36
5	25	5	25	2	4	2	4
1	1	3	9	0	0	5	25
1	1	2	4	1	1	2	4
5	25	2	4	0	0	2	4
1	1	3	9	1	1	5	25
2	4	6	36	1	1	1	1
0	0			0	0	2	4
0	0			1	1	3	9
						4	16

33	111	59	241	25	81	64	264
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean= 1.833333		mean= 3.6875		mean= 1.388888		mean= 3.368421	
TotSum=	181	ssqrd=	32761				
sumMales=	89	ssqrd=	7921	F/hi sqd=	1089		
sumFmle=	92	ssqrd=	8464	F/lo sqd=	3481		
sumHi=	58	ssqrd=	3364	M/hi sqd=	625		
sumLo=	123	ssqrd=	15129	M/lo sqd=	4096		
C' = 461.4225							
Total SS=235.5774							
Sex= 463.0222	-	461.4225	=	1.599722			
Grades= 525.7015	-	461.4225	=	64.27905			
S x G = 528.3636	-	527.3013	=	1.062359			
error = 168.6363							

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F	
SEX	1	1.599722	1.599722	0.635577	
GRADES	1	64.27905	64.27905	25.53836	** p < .001
S x G	1	1.062359	1.062359	0.422080	
error	97	168.6363	2.516960		
TOTAL	(10)	235.5774			

APPENDIX J

NEGATIVE CURIOSITY: RAW DATA AND ANOVA TABLE

NEGATIVE CURIOSITY: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: (-)Curiosity

F/hi	F/lo	M/hi	M/lo
0	0	2	4
1	1	0	0
1	1	1	0
1	1	4	16
0	0	0	0
0	0	3	9
0	0	0	0
0	0	0	0
0	0	4	16
1	1	3	9
1	1	2	4
1	1	3	9
1	1	3	9
3	9	2	4
1	1	3	9
1	1	0	0
0	0	3	9
2	4	3	9
1	1		
3	9		

17	31	33	99	16	34	45	141
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean= 0.944444		mean= 2.0625		mean= 0.888888		mean= 2.368421	
TotSum= 111	ssqrd= 12321						
sumMales= 61	ssqrd= 3721			F/hi sqd= 289			
sumFmle= 50	ssqrd= 2500			F/lo sqd= 1089			
sumHi= 33	ssqrd= 1089			M/hi sqd= 256			
sumLo= 78	ssqrd= 6084			M/lo sqd= 2025			
C' = 173.5352							
Total SS=131.4647							
Sex= 174.0969	-	173.5352	=	0.561768			
Grades= 204.0785	-	173.5352	=	30.54336			
S x G = 204.9192	-	204.6403	=	0.278885			
error = 100.0807							

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F
SEX	1	0.561768	0.561768	0.376080
GRADES	1	30.54336	30.54336	20.44753 **
S x G	1	0.278885	0.278885	0.186702
error	67	100.0807	1.493742	
TOTAL	(70)	131.4647		

APPENDIX K

NEGATIVE FRUSTRATION: RAW DATA AND ANOVA TABLE

NEGATIVE FRUSTRATION: Raw Scores and ANOVA Table

ANALYSIS OF VARIANCE OF 2x2: SEX (m,f) x GRADES(hi,lo)

Score analyzed: (-)Frustration

F/hi	F/lo		M/hi		M/lo		
1	1	0	0	2	4	3	9
1	1	1	1	0	0	3	9
4	16	4	16	2	4	3	9
1	1	4	16	1	1	2	4
1	1	4	16	0	0	1	1
0	0	3	9	0	0	4	16
1	1	3	9	0	0	3	9
0	0	1	1	0	0	4	16
1	1	4	16	0	0	3	9
3	9	3	9	0	0	2	4
4	16	4	16	4	16	2	4
0	0	1	1	1	1	4	16
1	1	1	1	0	0	3	9
3	9	2	4	0	0	3	9
0	0	2	4	2	4	3	9
0	0	3	9	1	1	2	4
2	4			0	0	3	9
1	1			3	9	2	4
						2	4

24	62	40	128	16	40	52	154
sum	sm of sq	sum	sm of sq	sum	sm of sq	sum	sm of sq
mean= 1.333333		mean= 2.5		mean= 0.888888		mean= 2.736842	
TotSum=	132	ssqrd=	17424				
sumMales=	68	ssqrd=	4624	F/hi sqd=	576		
sumFmle=	64	ssqrd=	4096	F/lo sqd=	1600		
sumHi=	40	ssqrd=	1600	M/hi sqd=	256		
sumLo=	92	ssqrd=	8464	M/lo sqd=	2704		
C' = 245.4084							
Total SS=138.5915							
Sex= 245.4435	-	245.4084	=	0.035110			
Grades= 286.2730	-	245.4084	=	40.86456			
S x G = 288.5380	-	286.3081	=	2.229885			
error = 95.46198							

ANOVA TABLE

SOURCE	df	SUM SQRS	MEAN SQ	F	
SEX	1	0.035110	0.035110	0.024642	
GRADES	1	40.86456	40.86456	28.68079	**
S x G	1	2.229885	2.229885	1.565045	** p < .001
error	67	95.46198	1.424805		
TOTAL	(70)	138.5915			

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VITA

Donna Merlyne Desselle (Martin) was born on November 9, 1947, in Kansas City, Kansas. She was educated in local public schools and graduated with honors from Raytown South High School in Raytown, Missouri in 1965. She married Robert Martin in 1967. Between 1967 and 1981 when her husband died of cancer she raised four children and worked in various supervisory positions, including five years as bookkeeping supervisor and teller at Boatmen's Raytown Bank in Raytown, Missouri. She was also active in the community, receiving the Volunteer of the Year Award from Family Services in 1970 and actively participating in the Raytown Chamber of Commerce and the Independent Order of Foresters.

After her husband's death in June, 1981, Ms. Martin returned to school, attending Longview Community College in Lee's Summit, Missouri on a Board of Trustees Scholarship. She earned her Associate of Arts degree in December, 1982, graduating with a 4.0 G.P.A. and a member of Phi Theta Kappa. She then attended one semester at Avila College in Kansas City, Missouri on a President's Scholarship before transferring to the University of Missouri at Kansas City. She was awarded her Bachelor of

Arts in Psychology from UMKC in July, 1984, graduating with departmental honors. Throughout undergraduate school she maintained a 3.87 cumulative GPA and a 4.0 GPA in her major.

Ms. Martin immediately began a master's degree program in psychology at the University of Missouri-Kansas City in the fall of 1984 and completed her coursework May of 1985. Upon completion of her degree requirements, Ms. Martin plans to teach at the community college level while pursuing her research interests and working toward a Ph.D. in clinical psychology.

Ms. Martin is a member of Psi Chi and past treasurer of the American Federation of Teachers.

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